MODERNISING WITH PURPOSE

A Manifesto for a digital Britain

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DIGITAL

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WILLIAM DAVIES

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Introduction

> We cannot hand over the responsibility for development to any cadre of experts – precisely because, in the project of development, we are all experts. If scientific and technological cadres have accumulated vast powers in modern society, it is only because their visions and values have echoed, amplified and realised our own. They have only created means to fulfil ends embraced by the modern public: open-ended development of self and society, incessant transformation of the whole inner and outer world. As members of modern society, we are responsible for the directions in which we develop, for our goals and achievements, for their human costs.
>
> *Marshall Berman*[1]

The purpose of this book is to democratise debates about the function of Information and Communication Technology (ICT) in society. This is a matter of increasing urgency, as digital technology becomes more pervasive, more embedded in our social and physical environment, and more critical to the way that government and the economy function. One of the properties of effective digital innovation is that it is often rendered invisible to the public, while remaining a transformative social presence. It is not right that the technical and managerial challenges of delivering such innovation should take precedence over the political and ethical purposes of doing so. Change of this sort should be both intelligible to the public at large and take place in a way that is accountable to political institutions, hence the need to democratise this debate.

Meeting this broad objective has two components. Firstly, the *capabilities* of ICT need to be clearly mapped out in ways that are accessible to a non-specialist readership, using robust evidence. If this is done successfully, the implications of technological change will be lifted out of the conceptual ghettos of the 'knowledge economy' or the 'information society' and demystified. In each of the chapters that follow, there is ample evidence presented on how ICT is affecting our society and environment, for better or for worse. Secondly, the *purpose* of digitisation needs to be explored critically and intellectually. In areas such as e-government, the sheer scale and complexity of delivery challenges can often attract too much political attention towards the question of *how* one achieves innovation, at the expense of the question of *why* one wants innovation. Democracy depends on the possibility that collective action and political decision-

making can steer society in a range of possible directions, and becomes nullified by fatalistic attitudes towards the future, or mechanistic understandings of social change. We have to keep alive a belief that politics can determine what sort of digitally-enabled society we live in, and the extent to which we pursue change at all. For this reason, each chapter also asks some unashamedly philosophical questions: Chapter One investigates the benefits of digital innovation; Chapter Two asks what new legal and civic constructs it requires; and Chapter Three examines how it might affect the relationship between individuals, civil society and democratic institutions. To some extent these correspond to rival political philosophies, but the argument is made that government has important new responsibilities in each case.[2]

Within our current political circumstances, we believe that the areas where action is needed most urgently are those discussed in Chapter Two, 'Delineation: Restoring Checks and Balances'. The Government is alert to the importance of innovation in both private and public sectors (the focus of Chapter One), and is increasingly attracted towards elements of self-government in communities (the focus of Chapter Three). But these must not be allowed to crowd out the constitutional and legal priorities of due process within government, and respect for privacy rights and enlightened individual choice across society. For instance, the desire to improve the customer focus of public services can make liberal measures such as data protection appear constricting.

The argument presented in Chapter Two, and reiterated in the Conclusion, is that a longer-term view of innovation would recognise that robust legal checks and balances, in tandem with public education of how these operate, is the only way of winning trust and enthusiasm among the public. At present, the majority of the public are, at best, sceptical as to how digital modernisation takes place in government and elsewhere. And they must be reassured that a robust legal and constitutional framework takes precedence over all other priorities, if they are to become more accepting of the changes that this Government is keen to push through. Constitutional modernisation is not a brake on innovation more generally, but its necessary partner. The Government is rightfully dismissive of the conspiracy theorists who view technological change purely as a way of monitoring and disciplining citizens; but they do surprisingly little to create the legal and constitutional regulations that would render this interpretation bankrupt.

Each chapter concludes with some principles of intervention for Government, and these are then condensed into a programme of recommendations in the conclusion. As much as possible, we have resisted the temptation to offer quick-fix policy solutions, in the form of new agencies, cross-cutting departments or initiatives. Such recommendations are

invariably hollow because, behind the suggestion that the body be created, there is rarely a further set of recommendations as to what it should do. Hence there is no mention here of a Minister for the Knowledge Economy or a Department for Digital Inclusion. Instead, through helping to democratise these debates, it is hoped that these issues can begin to permeate policy-making and civil society in a far more cross-cutting fashion than any new agency could achieve.

Finally, there has been a valuable method underlying the development of this document. Between June 2004 and June 2005: the ippr Digital society and Media team hosted and co-hosted some twenty seminars and conferences under the heading of 'A Manifesto for a Digital Britain'; a steering group of around fifteen ICT and policy specialists met every three months to debate the goals of the project and this book; over a dozen papers were written by ippr staff and external associates, and published online; and a weblog was used – www.digitalmanifesto.org – to disseminate these papers, and to hold a public consultation in April 2005, to which over fifty contributions were made. The author has drawn on all of these contributions, and cited them wherever possible.

1. Modernisation: converting innovation into wealth

Whether one considers technological innovation to be a good in its own right depends largely on cultural sensibilities. Enthusiasts and critics of technological modernisation each have no shortage of evidence and imagery to support their respective positions. The twentieth century offered up the moon landings, but also the atomic bomb; the Manhattan skyline, but also unprecedented urban slums and pollution. Despite attempts in social science to measure intangible goods, such as 'happiness', it is futile to ask whether or not technological innovation has made society a 'better' place than it was a century ago. It has contributed to making it a different place, but enthusiasm for newness is a cultural stance and not something that can be empirically endorsed one way or the other.

But one thing technological innovation has emphatically done is to make society a *wealthier* place. Together with improvements in human skills and organisational structures, technological innovation is one of the fundamental drivers of productivity growth. Productivity growth, in turn, is the fundamental enabler of economic growth. When productivity increases, the economy can grow faster without inflation, and wages and employment tend to rise accordingly. Many of the most optimistic observers of technological modernisation have been enthused by the possibility it offers to lift people out of poverty, and away from dependence on the natural world for their material needs. The Left and the Right may have very different views about how wealth should be distributed through society, but both look to innovations in industry to create it in the first place.

Talk of the 'information society' and the 'knowledge economy' has approached self-parody in some circles, thanks to the extraordinary self-reflection that has accompanied recent social and technical change. Think tanks, academics and management gurus are guilty of overanticipating the future and allowing hype and brands to create policy bubbles, which then inevitably burst. When futurists say 'society will become x', they rarely clarify whether they mean 'society will become x whether we like it or not', 'policy-makers should aim to move society towards x', or 'policy-makers should anticipate the possibility of x'. On the other hand, an excessive emphasis on 'evidence-based policy' is scarcely any more desirable. To jump from idealistic presumptions about the future to quantitative analysis of the past is to miss out what comes in between the two, namely political decision-making. We need both a conceived rationale *and* a practical strategy for digital modernisation.

We should, however, accept the *economic* fundamentals of Britain's digital modernisation agenda. Thankfully, the Gershon review of public sector efficiency has now made an explicit fiscal case for e-government, thus cutting through the dotcom hype that demanded public services be online purely for the sake of it. Efficiency may be a less attractive or less exciting rationale for e-government, but it is a far more credible one. The rest of Britain's digital agenda needs a similarly robust economic case made for it, and then communicated effectively. When we think of what is meant by the 'knowledge economy', and why we might embrace it, we need firstly to understand the economic context of the previous twenty-five years.

Why this matters: knowledge and productivity

The 1970s marked a turning point in the wealth-creation strategies of many Western economies, and much of this related to technology. From the industrial revolution onwards, the productive potential of these economies was directed towards manufacturing of goods. Britain's early industrial supremacy was rooted in the production of textiles. The US economy, which became more productive than Britain's in the late nineteenth century, was driven by steel industries and the industrialisation of agriculture. Through the 1950s and 1960s, the economies of continental Europe, the US and Japan grew at a sustained rate as a result of improvements in the production of cars and new consumer goods. Yet so many of these innovations were liable to be copied by foreign competitors, many of whom had lower wages to pay, meaning cheaper, more competitive products. Even during the boom years of the 1950s and 1960s, manufacturing was drifting towards Japan and South East Asia. In the 1970s, innovation stagnated, productivity growth slumped, and many countries (including Britain) encountered severe economic difficulties.

The decline of Britain's manufacturing base in the 1970s and 1980s is a well-rehearsed story, fraught with political conflict. Moreover, it elicited deep-felt anxiety as to how Britain was going to generate wealth beyond the speculative activities of financial institutions. A model of capitalism capable of creating high employment and rising wages needs a wealth generator at its heart. The potential solution was identified in the 1980s, as economists began to wonder whether economic growth might be possible without an increase in production of goods, but through concentrating on production of *knowledge*. If this were possible, education would be a form of investment, and the UK would have sources of competitive advantage in the form of schools, science parks and universities, which could not be quickly or cheaply imitated overseas.

New Labour has wholeheartedly pursued a 'knowledge economy' strategy

since coming to power in 1997. Tony Blair's famous promise to put 'education, education, education' at the heart of a future Labour Government was as much a declaration of economic policy as it was of social policy. One of Peter Mandelson's first acts as Trade & Industry Minister was to commission a White Paper on the knowledge economy. And, with varying degrees of enthusiasm, this has also involved embracing ICT, and encouraging modernisation of Britain's digital infrastructure. But if knowledge is what is being produced, what *is* the role of ICT in such a strategy? On the face of it, 'information technology' ought to *reduce* the need for humans to carry knowledge around in their heads, oughtn't it?

Sources of wealth

There are four ways in which ICT might contribute to wealth, and it is critical that these are properly distinguished from one another, to raise the credibility of ICT within economic discourses.

The ICT industry itself: Firstly, of course, an economy might actually *produce* ICTs. In the US, rates of productivity growth and economic growth doubled in the mid 1990s, and this was partly thanks to innovation in industries that actually produced digital infrastructure, such as semi-conductors or internet routers. ICT proves especially useful at improving how *it itself* is produced.[3] Equally, ICT service industries (offering training, installation and maintenance) are an important source of employment and business support. Many software producers, for instance, operate a business model where they give away their product for free, and make money through selling additional services around it.

Organisational productivity: Commentators on the knowledge economy frequently confuse this first phenomenon, of the ICT industry itself, with a second one. This is the use of ICT to improve the productivity of firms that aren't expressly concerned with digital technology at all. Manufacturing firms often demonstrate a remarkable ability to implement ICT towards productivity gains, though this may of course translate into job cuts. Britain's coal and oil industries, for instance, are among its most successful users of ICT, although the technological modernisation has very often been at the expense of jobs. Effective implementation of ICT in manufacturing is arguably an easier job than in services, because the process and end product are easier to specify and quantify.

Elsewhere, the relationship between ICT and productivity is a far more complicated story. Despite sustained investment in ICT over the past twenty years, many service industries have struggled to improve their performance through use of the new technologies. Too often, the investment is simply an additional overhead, while processes carry on as usual. The critical challenge is a social one, namely of creating adequate trust

between management and staff to allow for the decentralisation of decision-making. Without this it becomes impossible to take advantage of the decentralisation of information which is one of ICT's most important economic properties. With adequate management and patience, firm-level productivity gains can be made, though these will typically be realised over five years after the initial investment. Moreover, evidence suggests that service-sector productivity gains tend to increase net employment, rather than reduce it.[4]

Learning support: A third way in which ICT can act as a potential enabler of wealth generation is its role in education, be it in the home, the classroom or elsewhere. Over the past twenty years, economists have developed a more nuanced understanding of how education contributes to productivity and economic growth. Evidence is never entirely uncontested in this area, but it's important to get a sense of some of the findings. One study found that increases in educational attainment accounted for a third of the productivity growth in the US over the post-war period.[5] Another international study estimated that, if investment in skills and education (as a share of GDP) is increased by a tenth, output per worker will rise by six per cent, and if this investment doubles, output per worker will eventually rise by about fifty per cent.[6]

The role of ICT in learning is among its most celebrated capabilities. Part of this role involves making learning resources more accessible and more ubiquitous. For instance, pupils can exploit the internet to access school materials from home, while schools can share their resources online. Learning resources can also be better 'personalised' for pupils, and the process of teaching can become more productive. Scarcity of basic learning materials ought, in principle, to be eradicated through the internet, which has the potential to remove the physical or technological barriers to education, where these exist.

More profoundly, however, ICT may actually transform the way we learn. The question is not simply how ICT can be used simply to find information (for instance through Google), but how it can support forms of learning that are unique to the human mind, that ICT *can't* do. If anything, ICT removes the need for people to memorise facts and figures, and does indeed make several forms of clerical jobs and skills redundant. Due to this, many of the economic consequences of ICT are uniform from one organisation to the next. This led Harvard economist Nicholas Carr to argue in a notorious essay that 'IT Doesn't Matter': because so many nations and so many firms all use the same technologies, the efficiencies and information it offers are blanket ones, and no longer confer competitive advantage.[7] What this overlooks is the smart use of ICT to develop valuable *human* capabilities that are not distributed uniformly.

Competitiveness depends not only on knowledge, but on the forms of knowledge that computers aren't able to store or share. A good way of casting this distinction is to contrast 'knowing that' with 'knowing how', where the former is about memorising facts, and the latter is about learning capabilities. The latter is where the competitive advantage of developed nations, such as the UK, now lies. As the sociologist Manuel Castells puts it, ICTs 'replace work that can be encoded in a programmable sequence and enhance work that requires analysis, decision, and reprogramming capabilities in real time at a level that only the human brain can master'.[8] Yet research shows that ICTs have a positive role to play in the teaching of this latter type of knowledge, even if this remains subject to teaching techniques and social contexts.[9]

New market structures: Finally, ICT potentially enables new, more competitive market structures. Prophets of the information society foresaw 'networked organisations', in which small, loosely-coupled teams could operate in tandem by exploiting the co-ordinating potential of the internet. One futuristic example might be Mondragon Corporacion Cooperativa in Spain, in which new organisations are constantly spun off as soon as the parent reaches a certain size, and then trade with each other.[10] The practices enabled by eBay might offer an alternative glimpse of the future, whereby individuals themselves trade on an open market, without dependence on organisations. In a paper published as part of the Digital Manifesto project, Wingham Rowan suggested that the model be adapted to allow individuals to sell their time and skills, potentially increasing the fluidity of local labour markets.[11]

But the model that remains most plausible for the time being is America's so-called New Economy. Already alluded to once or twice, the experience of the US during the 1990s is evidence of how ICT can enable social and economic behaviour that is both disruptive and highly productive. New high-tech and knowledge-based businesses were formed in vast numbers, using social networks between local universities, entrepreneurs and venture capitalists. These businesses were not only in the business of producing technological innovation, they were enabled by it: the internet had drastically lowered barriers to entry for new businesses. In California in particular, it became possible for a few good software writers to find each other, work together, and publicise their product without so much as a single office.

This picture of twenty-something entrepreneurs relying on nothing other than laptops, friends and lattes has become exaggerated over time. This was a small minority of people, with its own peculiar psychology, and often supported by less commented-on networks of business angels and parent companies, such as Hewlett Packard. The presence of the technology simply offered an opportunity to innovate; the motivation, intelli-

gence, and perseverance to do so successfully, come from entirely different sources. Equally, there is no reason to assume that any small business which exploits ICTs will be especially innovative. The point is simply that ICTs do potentially enable an economic restructuring, and that this does potentially put small businesses and individuals at the heart of an economy's value-creation.

Evidence of modernisation

A variety of international benchmarking exercises attempt to rank nations on how quickly they are entering the information age. These need to be treated with some caution. The UK is currently ranked the fifth most 'e-ready' economy in the world, judged in terms of its infrastructure, uptake of online services and e-government practices.[12] And yet output per hour in the UK is still twenty-five per cent lower than in the Netherlands, eight per cent lower than in Germany and eleven per cent lower than in France – countries that are ranked eighth, twelfth and nineteenth respectively for 'e-readiness'.[13] This discrepancy between infrastructural and economic progress is a common feature of Britain's current technological capacity. Modernising infrastructure is the necessary-but-not-sufficient precondition of new, potentially more productive ways of working and organising. And to date, Britain and its organisations have had a better record when it comes to investing in the cables and machines, than when it comes to supporting and managing the new practices.

Britain's productivity deficit has become a more urgent political problem against a backdrop of offshoring of service industries. In this respect, ICT has created a problem for the UK economy: high-speed telecommunications infrastructure means that many services can be relocated anywhere that has the technological and social capabilities to perform them more cheaply. When one considers that an average software writer in India earns one seventh of the amount of the average in the UK, and a call-centre operative even less, the business case for offshoring becomes clear.[14] India, which produces two million graduates a year, and where English is widely spoken, is unsurprisingly the recipient of the largest proportion of the service jobs that are moved out of the UK. In Korea, wages are only just over half their level in the UK, yet the proportion of graduates is the same.[15] Reasonable estimates suggest that between two and three per cent of European and US jobs could be offshored in the next decade.[16]

The threat of offshoring should not be exaggerated. Economists are in broad agreement that the practice ultimately benefits both nations involved, allowing each to become more specialised. In late 2004, Britain was enjoying the highest employment level in the G7 – 74.7 per cent of

working age adults – and there is little immediate prospect of a net loss in service jobs.[17] However, offshoring does at least act as a catalyst to thinking about what sorts of jobs and industries Britain can rely on for the foreseeable future. As skills in Asia continue to rise, infrastructure improves and offshoring intermediaries become more effective, higher-value-added white-collar jobs (such as journalists or accountants) could become offshored in future. The European Commission has argued that 'ultimately, ICT-induced productivity increases are a source of job creation' and that 'the overall dynamism resulting from ICT use leads to job creation in other areas to an extent that more than offsets the losses.'[18]

The capability of ICT is to enable faster, more integrated and more finely-targeted social connectivity. This connectivity is fundamentally 'socio-technical': *enabled* by technology but *enacted* by people. The most common error made when analysing ICT is to focus on how we are enabled, and not on how we choose to act. To assess Britain's capabilities, we need to look at both, ideally in tandem. But let's take one at a time, and then look for evidence of how these capabilities may have benefited the UK economy.

Hard infrastructure

One of the less plausible claims made for the 'information society' was that economic activity was becoming 'virtual', divorced from the material world. The fact that electronic money can now be used to buy informational goods (for instance purchasing an insurance policy online using a credit card) suggested that physical things and places were no longer critical to how business was done. Slogans such as the 'death of distance', the 'weightless economy' and the 'end of cities' followed.

British urban geographer Stephen Graham dismantles this argument best when he says 'commentators have consistently ignored the fact that it is real wires, real fibres, real ducts, real leeways, real satellite stations, real mobile towers, real web servers, and – not to be ignored – real electricity systems that make all this [cyberspace] possible'.[19] The quality of all infrastructure, and not just telecommunications, is a critical source of competitiveness in an age in which businesses exert a higher degree of choice over where to locate. It is impossible to quantify the significance of digital infrastructure relative to other factors (for instance, transport, culture or legal regime), but it is safe to assume that the absence of high-speed internet access would now be sufficient to drive many businesses and individuals out of a region.

From a poor start, the UK's record on high-speed broadband internet has improved rapidly in recent years. By summer 2005, the 'roll-out' of broadband will be nearly complete, such that 99.6 per cent of households will be able to sign up to broadband should they wish – the highest roll-out level of any country in the world.[20] As a result of being the third most competi-

tive broadband market in the world, prices have been falling steadily and take-up has been rising fast during 2004 and 2005.[21] In early 2005, thirty-six per cent of people in the UK had home broadband access, up from only eleven per cent in 2003, while the Prime Minister made a pledge in his 2004 party conference speech to 'bring broadband to all who want it' by 2008. The economics mean that for consumers, there is no longer much price difference between broadband and dial-up access to the internet.

Table 1.1: ICT diffusion in UK population[22]

Technology	Penetration
Home internet access	56%
Home broadband access	36%
Home digital television	57%
Home landline	93%
Individual mobile phone ownership	79%
Broadband availability	99.6%

Businesses, meanwhile, have embraced ICT to a significant extent, and the Government's own international benchmarking study shows that British businesses rank third in the world for 'ICT sophistication.'[23] While around sixty per cent of British people use the internet at some point in their day-to-day lives, eighty-five of British businesses have some form of network capability, sixty-five per cent of small and medium enterprises (SMEs) are connected to the internet and thirty-one per cent actually trade online.[24] There remains a fear that small businesses are struggling to keep up with the capabilities of large businesses, which is a significant one, given that one of the capabilities of ICT is the potential to create a level playing field between large and small businesses. Too often, SMEs still report that they can't see the business case for investing in ICT, or don't receive sufficient information about it.

The public sector's digital modernisation agenda has come from two central sources. Firstly, the targets set in 2000, to ensure that all public services are online by the end of 2005, and secondly, the Gershon review's target of achieving 2.5 per cent efficiency savings, largely through back-office integration. The Government believes that it will come close to meeting its 2005 target, with nearly ninety per cent of services available online. In terms of infrastructure, the key difference between the public and the private sectors is scale, which matters a great deal when it comes to the delivery of ICT systems.

In the domestic sphere, cost may still represent a critical obstacle in the spread of internet access, be it dial-up or broadband. In 2003, of those households earning under £17,500 a year, only twenty-seven per cent had home internet access, compared to seventy-seven per cent for those earning over £30,000.[25] To counter the threat of a 'digital divide', the

Government set itself the target of putting free internet access within walking distance of every British citizen by 2005. Thanks to policies such as UK Online centres, ninety-six per cent of people in the UK are now aware of somewhere nearby where they can use the internet if they wish.[26] A number of far more local and experimental policies have looked at how deprived neighbourhoods might be improved through putting broadband-enabled PCs in every home (discussed further in Chapter Three).

The good news for the UK is that the digital divide is being tackled head-on in schools. Since ICT skills were first defined as a core competency by the Government in 2001, access to technology has grown rapidly, especially in secondary schools. The number of pupils per computer in secondary schools has fallen from 7.9 in 2000 to 4.9 in 2004 (against an EU average of twenty between 2000 and 2002), and ninety-seven per cent of school pupils are internet users.[27] The area identified as one in which the digital divide *could* be sustained, is in unequal access to learning technologies in the home. But thanks to initiatives that help pupils take laptops home with them, eighty-one per cent of pupils had access to a computer at home, even if forty per cent of children do not have home internet access. The Government's recent Digital Strategy outlined further plans to support pupils who don't have hardware at home.

Critics of the UK's existing broadband infrastructure argue that it still isn't fast enough. The Government defines 'broadband' as 'an always-on service offering a data rate in excess of 128kbit/s (i.e. not ISDN)', which makes it only twice the speed of a conventional dial-up service.[28] In fact, most ISPs now offer services of one megabit per second (mbit/s) as standard (eight times the legal definition of 'broadband'), but this is still dwarfed by standard speeds of twenty mbit/s in France, or an astonishing fifty mbit/s in Japan, at the same cost of around £20 a month. Moreover, uploading speeds in the UK are not nearly as fast as downloading speeds. This means that while we can receive information at a reasonable rate, we can't send it at the same rate, a not insignificant limitation if broadband is to be a genuinely social, peer-to-peer medium, and not simply a 'content medium'.

From some perspectives, the UK's successes in distributing broadband access have concealed severe weaknesses in the quality of the connections being sold. As BBC journalist, Bill Thompson has written, 'We should be careful that we do not let our approach of making do with what we have got and getting by with slow connections have too much impact on the wider conversations about what sort of access speeds the world needs.'[29] The technological counter-argument to this is that 'compression technologies' (software which can shrink data, in order to send it more quickly) are improving faster than bandwidth is expanding, hence the latter is not such an urgent concern.

Social capabilities

A more profound question to both sides of this debate is whether the number of megabits per second is the right thing to be measuring in the first place. What counts as 'fast' depends entirely on what is being done, and we can only speculate about what the most valuable uses might be in the future. The Broadband Stakeholder Group offers a more open-ended, social definition as 'always on access, at work, at home or on the move provided by a range of fixed line, wireless and satellite technologies to progressively higher bandwidths capable of supporting genuinely new and innovative interactive content, applications and services and the delivery of enhanced public services.'[30] The *possibility* for moving gradually to higher bandwidth connectivity over time must be a priority, given that future needs are impossible to determine.

In defence of Britain's current infrastructure, the cases in which anyone might find themselves frustrated by current bandwidth levels are still comparatively rare. If every member of a family is each engaged in some form of video-based interaction online then that might require five or ten times current bandwidth levels. Watching a television programme over the internet may require connections that are four times as fast as the one mbit/s widely on offer at present. But these are not everyday pursuits as yet. As various researchers have identified, the fact that broadband is 'always on' is currently a more socially significant feature than the relative speeds involved.[31]

Indeed, beyond the convenience of broadband, relative to dial-up, sceptics might well wonder what its social purpose is at all. A recent British survey found that the most popular reason for signing up to broadband is downloading music (thirty-three per cent), while the second most popular is 'adult services' (twenty-five per cent).[32] Given that the majority of the former is still thought to be illegal, while the latter speaks for itself, this raises questions as to whether policy-makers ought to be celebrating this technology to the extent that they have done. In fairness to broadband users, they may not have a 'reason' for signing up for broadband any more than one has a 'reason' to own a bicycle, hence the survey is skewed by a few obviously data-rich activities. But we are entitled to ask what precisely will be sent through these pipes over which so much fuss is made.

For instance, the assumption that home broadband access translates into lifelong learning may well be misguided. British sociologist Neil Selwyn has found that educational use of the internet is far lower than policy-makers would like to think, and that where learning does occur, it is most commonly focused on ICT use itself. Where adults were using home computers for other forms of learning, it tended to be as a supplement to offline learn-

ing that they were involved with anyway.[33] Even inside schools, Ofsted has noted that 'few schools as yet make significant use of applications that specifically require broadband.'[34] Meanwhile, despite the Government's valiant efforts at placing all public services online by the end of 2005, little over half of internet users have ever looked at a government website, and a minority of these have ever transacted with government online.

These issues are partly related to levels of ICT skills across society. Research by the Cabinet Office suggests that despite nearly two thirds of the population being users of the internet, only around a half of these are 'digital transactors', that is, the sort of people who are comfortable using sites like eBay, e-commerce sites or interactive government websites. Informal technical support is also an important precondition of successful ICT use, and this is only patchily distributed.[35] This may inhibit the convenience of using the internet as an alternative to other channels (such as the telephone), plus it potentially disadvantages people in labour markets. A Digital Manifesto paper by Anna van Zoest indicated that, although a very small minority of jobs are advertised as requiring ICT skills, there remains a significant mismatch between the requirements of employers and the typical ICT skills of applicants.[36]

On the other hand, lack of engagement with ICT cannot be explained simply in terms of access and skills. It is becoming increasingly clear that it is a social, economic and *cultural* phenomenon, relating to motivation, confidence, assistance and the type of content available on the internet.[37] In late 2004, around forty per cent of people in the UK rarely or never used the internet, and the dominant reason for this is 'lack of interest'.[38] Analogously, small businesses that don't use ICTs of one sort or another commonly report that they don't see the business case for doing so. The economic barriers to internet use are real, but it is patronising to non-users to ignore or disbelieve their stated lack of interest in the internet. A more dominant supply-side problem is in the delivery of content that people want online, and not so much in the supply of hardware. And if there is a demand-side problem, it lies in the informal networks of technological support that people need in order to first adopt ICT, and then become adept at using it.

There is no reason why computers should be *voluntarily* adopted for productive purposes, any more than any other technology should. The spread of literacy in the nineteenth and twentieth centuries did not lead to a society of novelists or freelance journalists, although it did have an impact on the labour market. The same is currently true with digital technology: only a small minority of people are exploiting the technology to the full, while a large number engage with it only as a necessary means of gaining employment and performing specific tasks. Selwyn's research indicates

that the task of transforming learning through ICT is a huge challenge, which may have only just begun.

The first conclusion to be drawn from the above is that quality, legal broadband content isn't being produced to encourage uptake of the technology. Apple's iTunes may represent the sort of business model through which broadband can attain social functions that don't infringe on intellectual property, and the Government has recently pledged to encourage 'innovative broadband content'.[39] But a differing perspective suggests that networked technologies will only be embraced in order to put them to network-oriented, *social* uses. The internet, many argue, has far more in common with a telephone than with a television, meaning that neither government nor industry can have very much influence over the 'content' that flows down it.

Economic benefits

In order to capture the economic benefits of ICT, we have to be sure that we are looking in the right place for them. For instance, certain economic gains will only manifest themselves at a sector or firm level. Equally, we have to be alert to the fact that some types of return on investment may not accrue to the investor – e-government investment, for instance, may improve public services for the citizen, rather than streamline them for the supplier. Earlier on, we identified four discrete areas where ICT can produce economic benefits. We now examine UK evidence in each.

The ICT industry itself: After the US and Japan, the UK creates the third highest number of ICT jobs in the world.[40] Half a million jobs are in electronics, and productivity growth within the ICT sector has tended to be unusually high in the UK. Figures from the IMF show that between 1995 and 2001, labour productivity in the UK's ICT-*producing* sector grew by eight per cent, compared to 1.9 per cent for its ICT-*using* sector and 1.7 per cent overall.[41] These figures are comparable to those in the US, indicating that the UK lags in the implementation of ICT but not in the production of it. Like the US in the mid-1990s, most European countries still struggle to extract productivity gains from their ICT investment, but benefit from the productivity of high-tech industries themselves. This is a very significant piece of evidence that Britain's ICT industry could do much more to celebrate.

Organisational productivity: Seeking a direct correlation between investment in technology and productivity gains has turned out to be a fruitless quest, although this does not mean that ICT is not a factor in productivity improvements. British labour productivity growth has increased marginally since 1997 (from 2.05 per cent to 2.44 per cent), and is very slowing catching up with its major rivals.[42] However, the sources of productivity

can never be easily located; even in the US, where there was a marked upturn in productivity growth in 1995, economists cannot reach any agreement over precisely what led to this. Some argue that productivity gains are caused by scientific innovations that take place several decades prior.[43] On the other hand, *firm-level productivity gains do seem to correlate to investment in technology where it is accompanied by managerial innovation*.[44] More subjectively speaking, a large majority of managers themselves report that broadband has yielded quantifiable productivity increases in their organisation.[45]

To repeat the point, ICT is a necessary-but-not-sufficient condition of productivity growth. It must be accompanied by social innovation, and only twenty-three per cent of British businesses say that they adapt to new technologies with ease, a level that is far lower than that of international competitors.[46] Tackling this international discrepancy should now be the highest priority for Government and industry.

The public sector accounts for fifty-five per cent of the market for ICT services and systems in the UK. Following the Gershon review, the public sector in the UK is embarking on a hugely ambitious attempt to raise its productivity levels through exploiting ICT and new managerial structures. Gershon set a target of £21.5 billion of efficiency savings to be made across the public sector through technological and managerial innovation. Whitehall departments are already indicating that they may do better than this, while research in 2004 showed that six local e-government projects had yielded £300 million in cost savings between them.[47] Yet firm evidence that e-government leads to net cost reductions is still lacking, indeed modelling by Kablenet suggests that at no point in the next decade will efficiency savings outstrip the cost of e-government.[48] It may be that where productivity does increase in the public sector, it is in increased government output, and this is a notoriously slippery entity to measure.

Learning support: The priority of dispersing the uptake of ICTs – 'digital inclusion' – is primarily an educational one. More ubiquitous digital technologies mean that learning can become part of our day-to-day lives, not just in educational institutions, but at home. Britain has a historic problem of polarisation between the most and least educated, with little vocational training in between – 7.8 million people have either low or no skills, but forty per cent of people attend university.[49] This inequality is not just an injustice; it represents underinvestment in human capital, one of the factors in Britain's poor productivity performance.

But are computers helping? One very extensive study, covering 100,000 children from around the world, found that those who had computers at home performed less well (taking account of other variables) than those who didn't.[50] The report suggested that 'This may reflect the fact that com-

puters at home may actually distract students from learning, both because learning with computers may not be the most efficient way of learning and because computers can be used for other aims than learning.' Yet it makes no more sense to suggest that computers inhibit learning than to say that they automatically reinforce it. The question is what content is available, how people are using it and how they are being supported in doing so. The British Educational Communications and Technology Agency (Becta) recognises that evidence linking ICT usage to educational outcome is lacking at present, indeed this relationship may not be provable at all. That said, the Government is developing a body of research to indicate the positive role of ICT in pupil performance, which it believes can be equivalent to half a GCSE grade.[51]

New market structures: British people show themselves to be highly innovative when it comes to their behaviour as consumers, but less so as producers. Online shopping, banking and trading have risen fast in the UK, with fifty-five per cent of internet users regularly buying goods, tickets or services online.[52] eBay has close to ten million registered users in the UK. The internet enables new, more efficient intermediaries (such as online search engines), so that old, less efficient intermediaries (such as high streets) can be bypassed if we wish. Moreover, e-commerce markets are more competitive and more demand-driven than traditional markets, because the consumer has greater ability to compare prices and to choose. One heady estimate suggests that by 2009, twenty-five per cent of all shopping will be done over the internet.[53] As already indicated, the benefits of the internet to consumers, be it in the public or private sector, do not often show up in economic evidence, but it is here that those benefits may be strongest.

As producers, however, British people have changed remarkably little over the past twenty years. Many observers expected ICT to alter employment fundamentally, such that labour would become sold in an increasingly ad hoc fashion. Freelancing, geographic mobility, small businesses and flexibility would all increase, as the inefficiency of organising people into firms would gradually be overcome. Barely any of this has happened: job tenure is rising and organisations are growing larger.[54] The only significant changes of recent years have been towards family-friendly forms of employment flexibility (in contrast to employer-friendly flexibility) and teleworking. The Government gave employees a formal right to request flexible working practices in 2003, and fourteen per cent have made such requests (usually for part-time or flexitime work) and eighty-one per cent of these were accepted.[55] Meanwhile, around two million people in the UK work from home at least once a week.

But ultimately, none of the above indicators touches on the core issue of innovation, and here Britain's efforts to develop a New Economy still

struggle. Networks between universities and small businesses need to be stronger, with better intellectual property structures to support the interface between public institutions and the marketplace. By most measures, UK businesses – and especially SMEs – are underperforming in their efforts to translate ideas and research into products and services. Patenting levels are too low, and many SMEs fear that the law does not work sufficiently in their favour anyhow. The technology is in place to enable new structures for knowledge-based and creative industries, but the business landscape remains fairly familiar. This, of course, is a choice a society is entitled to take, but many believe that it is hampering the competitiveness of the UK.

From economic benefits to utility?

As a coda to the above presentation of evidence, it is worth questioning whether conventional economic indicators capture any of the more profound shifts that ICT may be enabling in our society. Economists themselves have recognised that many of the benefits of ICT investment are experienced by consumers and not by the suppliers that make that investment.[56] If e-government investment, for instance, is analysed purely according to the criteria of efficiency, it will look like bad value for money, which is why a previous ippr publication made the case for a 'public value' test to be put in place when evaluating e-government investment.[57] An alternative option was outlined at a Digital Manifesto seminar by Michelle D'Auray, former CIO in the Canadian government. D'Auray explained how the 2001 Canadian e-government plan had set itself a target of improving user satisfaction by ten per cent, which sits in stark contrast to the British equivalent, which was to simply get all services online by 2005.[58]

Given the amounts being spent on ICT in both public and private sectors, it is reasonable for anyone to ask what the return on that investment has been. However, it is equally reasonable to insist that the measurement is a meaningful one. At present, it is very easy to find statistics on which country in the world has the most infrastructure, which country in the world registers the most patents, or how many people are shopping online. But there may be other highly beneficial (or malign) outcomes that are going unnoticed or are, at least, not quantified so vigorously.

For one thing, the benefits of ICT investment may accrue chiefly to the customers and not the suppliers. But for another, there may be more profound forms of innovation going on (or not) under our noses that society ought to try and pursue as an ethical compulsion. Our concept of return on investment should include the number of elderly people who live alone and rely on ICT for social contact and support; the amount of CO_2 emissions that are prevented by ICT-enabled home working every year;[59] and the number of disabled people whose access to labour markets is dependent on ICT as an

enabling technology. Not all forms of utility can be captured as conveniently as economic forms, but academics, industry and governments must continue their work in developing new metrics in such areas.

Principles of intervention

The political and economic imperative currently facing the UK is to start extracting better returns on years of technological investment. Spending on ICT over the years has been high, and in many circumstances – especially the public sector – employees, customers and citizens have grown weary of constant technological innovation, when it isn't matched by tangible improvements in outcome. The reasons these improvements have been lacking are invariably social: poor skills, poor understanding, poor management and so on. This, fundamentally, is where government's responsibility lies, and it is vital for prosperity and value for money in public services. As the growth economist Nick Crafts puts it, 'the chief focus of a policy to strengthen long-run growth performance should be to address market failures which weaken "social capability" rather than to subsidise routine investment.'[60] Many of the key challenges here are in fact occurring outside of the scope of this report, in classrooms, offices and colleges. But, as far as Government's modernising role is concerned, we offer the following principles of intervention.

Principle 1: All spending on ICT should be bundled together with spending on relevant social support

When it comes to transforming processes through digital technology, the best default assumption is that it is useless until proven otherwise. Be it in the realm of knowledge management, e-government or e-commerce, the most effective way of improving a service is to design a new process, and then to ask which bits of it cannot be achieved without technology. From some perspectives, it is absurd how much investment has been made in new technologies, given how little innovation in processes has occurred which actually *requires* ICT. The difficulty has been that technological innovation is tangible and looks like a solution, whereas social innovation (in management and training) is intangible and looks like a problem. It is absolutely essential that large organisations cease to view ICT as a form of innovation in its own right, and start to place it – and cost it – in its appropriate social context.

Principle 2: Networked technologies rely on networked management structures

The successes and failures of implementing ICT towards improved service

delivery are all, ultimately, managerial. Technological failures do occur, and in the public sector these can become high-profile disasters, but dig deep enough and a managerial failure has occurred somewhere further upstream. But for organisations – especially large and long-standing ones – to extract the connecting benefits of ICT, they have two main options. Either they must learn to co-operate effectively with the network of other stakeholders in the system, or they must rebuild themselves in ways capable of governing cross-cutting infrastructure.

Adapting conventional bureaucratic structures to support the governance of networked communication systems is the single greatest managerial challenge facing large organisations. This has been true for twenty years, and remains so. It is easy to berate sluggish parts of Government by pointing to high profile success stories, such as Easyjet, Amazon or (for a public sector example) London's congestion charge. But it is significant that such examples involve the *creation* of new services or businesses, and not the *transformation* of existing ones. The latter is a far tougher challenge. Experimentation with new organisational and risk-sharing structures is required, such as Liverpool Direct, the joint venture between Liverpool City Council and BT. Creating dialogue between ICT experts themselves, as occurs with the Whitehall CIO Council, is another important technique for supporting horizontal information flows, and sharing of responsibility.

Principle 3: Measure the ends not just the means

For at least the past five years, Government and consultancy organisations have embraced techno-centric benchmarks and targets. The 2005 e-government targets in the UK focused on whether or not services were online, rather than on whether they were improving. Benchmarking analyses, such as the 'e-readiness' analysis cited earlier, give a good depiction of how equipped a country is, but not of how successful it is in actually pursuing its goals. Similarly, the Gershon agenda has focused on slimming down the mechanisms of government. And while it has been implicit in this that resources would be released to the 'front line', the question of what constitutes the purpose of the front line is addressed elsewhere entirely – in the Atkinson review of how government outputs are measured. Means are far easier to measure than ends, but industry, consultants and governments need to consider how they could do better at benchmarking their outputs, and not just their inputs.

Other than the ICT industry itself (which obviously benefits from strong demand for new infrastructure), it is not clear that UK business has benefited from the constant focus on quantitative measures of technological equipment. The speed and ubiquity of connectivity is only very tangentially related to productivity, and arguably of far less significance than manage-

ment capabilities and skills. For this reason, we suggest that the concept of the 'knowledge economy' be broken down into the more meaningful categories outlined earlier. 'The ICT industry itself', 'organisational productivity', 'learning support' and 'new market structures' are independent areas where ICT can improve outcomes. We should look for these outcomes in the appropriate places, rather than sit in awe of the technology itself, which is now too ubiquitous to be worthy of study in its own right.

Principle 4: Knowledge and art are cultural as well as economic resources
Creative industries account for 8.1 per cent of UK GDP and 1.9 million British jobs. Meanwhile, the proportion of GDP created by service industries has risen from just over half in the early 1980s, to nearly three quarters today. To protect the fruits of this production, the Government has recently, and rightly, restated its commitment to a robust intellectual property regime, as a factor in the competitiveness of the UK economy. It has also pledged to investigate the role of copyright in the digital age, and use its Presidency of the EU to look at possibilities for reform. Clearly the Government is keen to ensure that incentives to commercialise research and ideas are as high as can be, given the low patenting rate of UK businesses.

However, it is also worth considering the qualitative aspects of intellectual property (IP) and learning in the UK, not so as to weaken IP protections or the training needs of the economy, but so as to ensure that they fit with the expectations that citizens, pupils and researchers have of the role of knowledge in their day-to-day lives. The 'knowledge economy' agenda should not be forcibly pushed through all of the multiple areas of British society which it implicates. For instance, Neil Selwyn's research shows that digital inclusion will not be achieved only as an educational agenda; stronger incentives or targets alone do not appear to increase the innovative capacity of UK organisations; and academics will rightly resist attempts to commercialise their environments too heavily. Perhaps the single most important challenge in improving the competitiveness of the UK economy, is how to form better bridges between creative industries and the marketplace, and between scientific research and the marketplace. To achieve this, artists and academics are told that they need to learn greater commercial skills, but bridging the gap would require businesses and venture capitalists to meet them half way.

Principle 5: The digital divide is a symptom of economic inequality, not a cause
Since the concept of the 'digital divide' was first popularised by the US Democratic Party in the mid 1990s, it has played a crucial role in alerting policy-makers and industry to the potential injustices of the digital age. The point was raised that we may now have the technological capability

to make information and educational resources abundant, but there remains the danger of carrying traditional inequalities into this new age. The vision was a subtly utopian one: the presumption was that ICT might create a more egalitarian society, should we use it correctly.

Policy responses to the digital divide have often been misguided by this utopianism. Early experiments such as the Wired Up Communities Initiative gave broadband-connected PCs to a large number of deprived families in the UK, only to discover that they were not used due to lack of interest and confidence. The important realisation has now been made that the digital divide is a symptom of economic inequality, and not a cause, and hence exclusion from technological networks tends to go hand in hand with a variety of other forms of exclusion. These include: low skills; lack of confidence in ICT use and general literacy; lack of informal technical support (i.e. friends and family with good skills); and lack of social reasons to use ICT (e.g. if one's peers are not using email, for instance, then that removes much of the incentive to use it). For these reasons, it is not helpful to carry on viewing the digital divide in isolation from other forms of exclusion.

Yet it is worth noting that cost of telecommunications does not represent the biggest barrier to usage. Low-income households spend only £6 less per month on communications technology than the UK average, but are still less likely to have home internet access. Equally, age remains the biggest determinant of whether someone is likely to use ICT. What we need to assess is when access to technology ceases to be a consumer good, and becomes some form of civic entitlement, as will be discussed in Chapter Three.

2. Delineation: restoring checks and balances

The benefits of digital modernisation, as outlined in the previous chapter, stem from a number of fundamental capabilities that ICT offers our society and its institutions. Technologically speaking these would be too numerous to summarise, but socially speaking they are really quite simple: ICT offers unprecedented opportunities to integrate different spheres of communication, and to memorise information. The very word 'digital' refers to the binary format of 1s and 0s, which virtually any type of information or artistic content can now be converted into. And once it has been digitised in this manner, the opportunities both to share it and to store it are increased quite dramatically. Aside from the specific forms of wealth or utility that this might lead to, this raises new ethical and political questions, many of which implicate government.

As digital technology becomes more pervasive in society, it gradually inverts a number of dilemmas. Where once we had to choose to share information, we increasingly have to choose not to. Where once we had to choose to store information, again, we increasingly have to choose not to. Moreover, where technological failures or accidents might once have prevented us from sharing information as we had intended, today they might also induce us to store or share information *against* our intentions. In a digital society we have to work equally hard in our efforts to defend or delete private information as we do in our efforts to disseminate public information.

Like any era of technological modernisation, our current one creates new threats and risks, even when the technology is at its most effective. In fact, we might go further than this: very often, technological modernisation creates new threats and risks *especially* when it is at its most effective. At its height, the industrial revolution created unforeseen pollution and new health hazards, to the point where average life expectancy fell during certain parts of the nineteenth century. As television grew in popularity through the late twentieth century, there is some evidence to suggest that it led to an unwanted reduction in valuable and useful social connections.[61] When a technology starts to be used on a much wider scale, side effects arise that were not foreseen in its original design – what are known as 'emergent properties'. Emergent properties are not small problems that can be 'ironed out' through slightly better design of the tool itself, in the same way that a poorly-located gear stick can be repositioned when a car is redesigned, but are a symptom of society-wide take-up of a technology.

Emergent properties are not automatically good or bad, but they should be recognised as an inescapable aspect of widespread technological modernisation. One thing that it is critical to realise is that they can't be either improved or controlled purely through unleashing further technological modernisation. Only political intervention can restore appropriate collective control. There is no innovation that can be made to a television set that will encourage people to turn it off and go and take part in civic activities. Likewise, science and technology may have been part of the solution to the pollution and health risks of the industrial revolution, but the birth of the welfare state and environmental movement were the *political* artifices on which they rested. Society copes with and exploits modernisation through stipulating its limits; the alternative is a model of innovation that escapes collective control.

We should therefore acknowledge the following two things. Firstly, that the primary capabilities of digital technology are to share and store information with unprecedented ease, and that there are limits to the usefulness of these functions. Secondly, that when a technology becomes used on a large enough scale, the consequences are unlikely to be quite as the technicians, designers or users intend, but nor can they simply be designed out. Combining these two points into one, it is clear that digital modernisation involves opening up a whole range of undesirable types of connectivity, which no amount of additional modernisation *alone* will protect us from. Spam, viruses, e-crime, loss of privacy or loss of intimacy are all made possible through precisely the same technological functions that deliver the benefits outlined in the previous chapter. As we strive harder to realise those benefits through greater modernisation, so the likelihood of these emergent properties and new security threats will increase.

Society has two possible responses to this, both of which are investigated in this chapter. The first is to construct new legal frameworks that set the terms and conditions of technological development, thus ensuring that it remains the servant of democratic choice, rather than vice versa. In today's environment, this partly means ensuring that the law is adequate to cope with a society with rapidly increasing capacity to share and store information. But it also means updating the constitution to ensure that the Government's own modernisation programme is effectively steered and constrained by a set of legal principles, and isn't allowed to be led by pragmatic concerns and customer satisfaction alone.

The second response is to develop a shared know-how or etiquette that anchors people to technological change, and ensures that enduring cultural norms are protected. Once again, increased interconnectedness represents threats as well as opportunities, and occasionally has to be deliberately constrained, as when we turn a mobile phone off at the beginning of

a meeting. Part of this is a question of what's called 'media literacy', but it extends further than that to include a sophisticated awareness of the benefits and perils of ubiquitous ICT, so as to uphold stability and dignity in the face of it.

Too often the current policy-making environment underestimates the value of these norms and frameworks. This value should be understood as follows: while governments are right to evaluate policy in terms of outcome (such as the outcomes discussed in the previous chapter), they will come unstuck if they seek always to justify their actions on outcome alone. Certain outcomes can't be controlled or won't be expected. A philosophy that states 'the ends justifies the means' – utilitarianism – may provide a useful way of taking ad hoc policy decisions on a day-to-day basis. But without a clear, a priori commitment to certain social and constitutional rules, the constant possibility of harmful unintended consequences threatens to undermine that policy programme. More than that, it will threaten the legitimacy of any government that asks to be judged on outcome alone, on those very terms that they have asked to be judged. For this reason, it is politically prudent to balance ad hoc policy evaluation against more rigid, potentially constraining commitments to certain processes and norms, which will, in the long run, serve government and society well.

Why this matters: the relative merits of privacy

Privacy is always a question of balance. Although the right to privacy is enshrined in the European Convention on Human Rights, this does not imply that there can ever be an entirely unbreakable line drawn around the private realm, but simply that the question of appropriate balance should remain a live one. If, as argued above, ICT's fundamental capability is to allow vastly easier storing and sharing of information, privacy rights represent the moral and legal limits around this capability, and must therefore sit centre stage in any debate about the politics of the digital age. Privacy is to digitisation what environmental protections are to industrialisation, or planning restrictions are to urbanisation. One does not have to be a fundamentalist to be an environmentalist or planning officer, one simply needs to believe in the entitlement of democracies to regulate their own technological capabilities.

This is not to say that technologies themselves have nothing to contribute to the way in which we regulate and control digital infrastructure, far from it. Encryption technologies can be used to protect privacy with considerable care and subtlety, while there are plentiful situations where ICTs are used to improve public services or protect public spaces, without this

automatically representing an infringement of privacy.[62] There is not a zero sum game between privacy and progress, in fact, developing robust laws and structures to protect privacy should be viewed as constitutive of progress into a more technologically-equipped age. Ideally, systems can be designed in ways that not only work within constitutional norms, but strengthen them. However, for this to happen, it is critical that defenders of the constitution enter effective dialogue with technicians, and offer them clear guidance.

We have argued that privacy is always a question of balance, which means that changing circumstances can lead to a redrawing of that balance. A comprehensive investigation of this question would cover a very wide array of cultural factors, but as far as digital technology and government are concerned, it is worth reviewing two in particular. Firstly, changes in the international and domestic security environment increase the desire of police and intelligence agencies to use surveillance technologies, which is very often welcomed by both government and the public. Secondly, an ever more customer-centric culture, engendered by service industries and retailers, applies pressure on a wide range of organisations to profile their users better, and personalise their services for the customer's' benefit. This applies in the public and private sector. As we will now investigate, these are areas where there often are zero sum games, and an increase in security or personalisation will often represent a decrease in privacy.

Safety

The 'war on terror' has dramatically highlighted the need for governments to retain control over information, in a manner that almost looked outmoded in the 1990s. Not only do governments now claim an entitlement to collect information with impunity, and to do so in secrecy; they argue that their reasons for doing so must remain secret, if they are to succeed in annulling the alleged threat. The proposal to introduce a national identity card containing three biometric identifiers, in tandem with a national identity register, demands that citizens trade an element of privacy for increased security, but without offering them a clear evidence base from which to assess the benefits of doing so. Other anti-terror measures, such as a cross-departmental intelligence project known as SCOPE, also seek to integrate data inside government to pursue anti-terror objectives.

Research shows that around seventy per cent of British people are 'concerned' or 'very concerned' about national security, yet the identical proportion are 'concerned' or 'very concerned' about protecting people's personal information.[63] A collective ambivalence towards surveillance is clear, but the security situation now affecting the West means that rational dialogue on the topic between governments and citizens has become vir-

tually impossible, leading to some of the problems in public discourse discussed in the next chapter.

Aside from the headline-grabbing issue of terrorism, new surveillance technologies are critical to tackling more day-to-day crime. Closed circuit television (CCTV) seems to be a popular way of cutting crime and increasing a sense of safety. Thanks to £340 million of public money spent on cameras between 1999 and 2003, Britain now possesses more CCTV cameras per head of the population (one camera for every fourteen people) than any other country in the world, or ten per cent of the world's total stock of CCTV cameras.[64] In 2004, the Government announced that Global Positioning System technology would soon be used to monitor persistent offenders. Speed cameras on roads are another very obvious way in which digital technology is being used by the government to influence our behaviour.

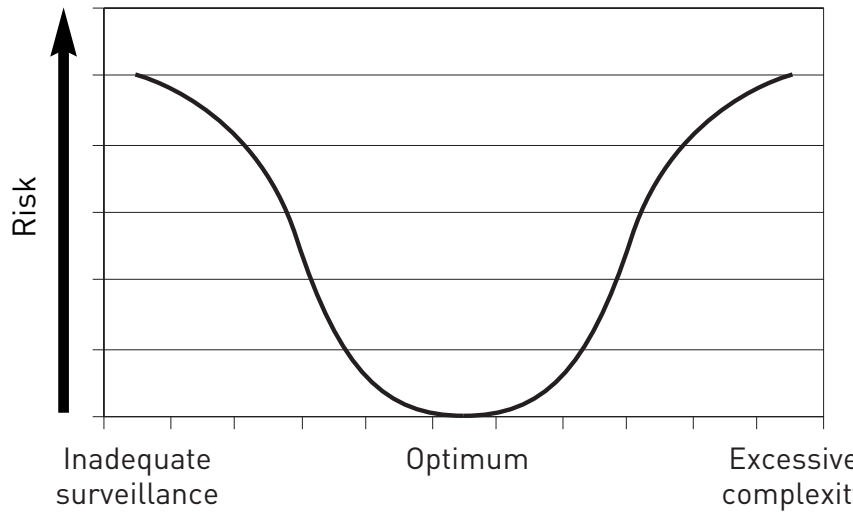
The severity of a crime inevitably strengthens the government's argument for surveillance. The 2004 Children's Act gave government the power to establish a database for the country's eleven million children, each being given a unique identifying number so that professionals, such as doctors and social workers, can highlight children they believe may be in danger. Meanwhile, the Bichard Inquiry into police failures surrounding the 2002 Soham murders, has recommended a national police intelligence system for England and Wales, as the centrepiece of a programme to join up regional police forces more effectively.[65]

All of these examples position technological innovation as the path to greater security, whereas it is often quite the opposite. Bruce Schneier, one of the world's foremost security experts, argues that 'technology will continue to alter the balance between attacker and defender, at an ever-increasing pace. And technology will generally favour the attacker, with the defender playing catch-up.'[66] Schneier's point is that increasing complexity of technological systems makes it ever easier for small-scale attacks to wreak significant damage. New threats emerge, veering between irritations, such as spam, through costly vandalism, such as viruses, up to large-scale criminal acts. A new technological system such as an identity register should not only be designed with such threats in mind, the threats should influence the question of whether the technological system is worth building in the first place. As we will explore in a moment, a number of security threats can be alleviated by putting privacy centre stage, rather than viewing it as an unhelpful hindrance to surveillance.

Optimal security in the digital age involves treading a judicious path between excessive complexity and inadequate surveillance. Lack of data-sharing or surveillance results in crimes, often serious ones, that are preventable. On the other hand, security services can collect too much data,

creating new and unnecessary risks. If a government attempts to justify its surveillance activities through pointing to one or two isolated incidents that could have been prevented by higher surveillance, its opponents can just as easily criticise those activities by pointing to one or two isolated security breaches that would not have happened if data had been handled in a less complex fashion. As Table 2.1 depicts, surveillance strategies can err in either direction. The argument made in this chapter is that the Government is best off not attempting to develop security strategies in a *post facto* reactive fashion, but to do so on the basis of an established, constitutional fashion.

Table 2.1: Trade-off between security threats and complexity



Joined-up government

The second value that we need to factor in is the possibility to improve services through 'joining them up' and 'personalising' them. Digital technologies enable organisations (including public sector agencies) to speak to an audience of one: to remember them from one interaction to the next, to develop a subtle profile of them automatically, and to treat them as a unique individual. When booking an airline ticket, for instance, it can be frustrating if the company doesn't seem to know that you have already used them several times before. By contrast, it is very convenient if an annual insurance policy can be updated automatically, and one's account debited without having to fill in forms all over again. Somewhat more controversially, loyalty cards now exploit digital capabilities to target appropriate offers at specific shoppers. Data-protection legislation states

that consumers must always consent to having their data shared, but some consumers would gladly trade off this degree of privacy in order to have an easier life.

In the 1990s, the phrase 'joined-up government' entered policy parlance, as a model of successful co-operation between separate government departments. Public services, it was argued, could be improved if the strict boundaries between bureaucracies were dissolved, something which ICT seems uniquely equipped to enable. For this reason, a higher level of horizontal information flows – or data-sharing – is the path to a more intelligent government. Following on closely from this came the notion of 'personalisation' of public services. According to proponents of personalisation, departments should not only co-operate better, they should share data in order to tailor services for specific needs of certain user groups.

Besides better customer service for the majority, the joining-up of services can produce better risk management when dealing with vulnerable minorities. The Labour Government's dedication to tackling social exclusion has been an important motivation for data-sharing, with policies such as the Integrated Children's System being driven by the belief that 'no single agency can be responsible for meeting the needs of all children and families.'[67] Threats can be anticipated, so that protection or treatment can be given to individuals who need it the most, even if they themselves are not aware of this. This represents either far better targeting of public services, or else the merging of public services with surveillance regimes, depending on one's point of view.

The personalisation agenda often tends, implicitly or explicitly, to model public service reform around successes in the private sector. However, the public sector has two primary characteristics that the private sector lacks. Firstly, although citizens can vote for which political party they would like to run the country, they cannot choose whether to 'use' government in the way that they can choose whether to 'use' a business. Many interactions with the State, such as paying tax or revealing one's identity at national borders, are obligatory, and therefore one cannot *assume* that citizens will trade off privacy for improved service. They must have the right to choose a less 'user-centric' service, as a means of giving away less data. This is because they don't have the option of choosing an entirely different service supplier, in the way that customers do.

Secondly, government is far larger and more complicated than any single business, and the range of services it supplies is far broader. With a few exceptions, businesses are only regulated in the way that they either retain data, or share it with other businesses; they are not regulated in the way that they share it between their departments.[68] But government, on the other hand, consists of revenue collectors, service suppliers, regulators,

law enforcers, and overseas diplomats. It would be entirely inappropriate for individuals to voluntarily give data to one bit of government, and for it to be automatically available to another. It is regularly pointed out that privacy concerns do not register very highly in the British psyche, but this is partly *because* we have data-protection legislation protecting us from government and other organisations.

Nevertheless, the opportunity to improve the experience and efficacy of public services through ICT is a real one. There are already areas in which integration of departments offers immediate efficiency savings and more integrated services. With the DirectGov portal, citizens can now access government as a single online entity, and not have to work out which bit of Whitehall is responsible for their particular concern. We would hope that personalisation in service delivery ought to improve as a result of the National Programme for IT in the NHS. A variety of policy and technical innovations are required before fully joined-up services become a reality. Firstly, mechanisms to ensure that data can be easily shared, with the citizen's consent, still need to be developed further despite the early success of the 'government gateway' portal. Secondly, e-government lacks an authentication mechanism through which individuals could gain secure access to services online. With such mechanisms and protocols, personalised, transactional services, will become a reality.

Privacy

The third and final value that needs to be weighed up is that of privacy itself. We need to consider two separate aspects to privacy, which correspond to the two primary capabilities of ICT outlined at the beginning of this chapter. Firstly, there is the question of how much privacy can be collected and potentially retained. Secondly, there is the question of what use this is then put to, and who else has access to it. Attitudes towards privacy differ considerably in respect of each. For instance, I am unlikely to care about a tourist capturing my face digitally in one of their holiday photos, on the basis that there is little conceivable motivation for them to have done so deliberately. On the other hand, CCTV poses a threat to privacy when its purpose is ill-defined, and those accessing its pictures are not specified.

The problem with privacy is often that it only exists through the norms, laws and agents which defend it. It doesn't show up on the spreadsheets of the evidence-based policy-makers, and to some extent this has led to it becoming associated with libertarians, at least in political circles. As Conor Gearty, a Professor in Human Rights Law, puts it, 'the protection of civil liberties has become the work of a lobby, not the duty of the entire citizenry, and a lobby moreover whose claim to act on behalf of the whole of society is not shared by this wider audience; indeed the general public

are far more likely to see the civil liberties crowd less as the defenders of their own freedom and more as the shop stewards of thieves, terrorists, and "fat cat" lawyers'.[69] Privacy arguments are not entirely dependent on 'universalist', rights-based claims, but they are substantially weakened without them.

Defenders of Britain's expanding surveillance infrastructure will argue that that it is harmless, as long as you don't have something to hide. What mainstream political discourse seems to have lost sight of is the *entitlement* to have something to hide. As a result, the privacy lobby is seen as defending the rights of paedophiles and terrorists, as if a moral principle were entirely reducible to the interests of those that benefit from it most. The alternative argument, as given for identity cards for instance, is that these policies would only by harmful in the hands of a totalitarian government, but that British governments are benign.[70] This seems to presuppose that totalitarian governments happily declare their own evil, and that their citizens wander around their day-to-day lives in a state of abject misery and terror. Once again, this deeply pragmatist point of view misunderstands that the difference between good and bad politics is not only explicable in terms of outcome, but in terms of principle, indeed it misunderstands that only principle can ever guarantee limits on possible outcomes. Occasionally, politics forces us to defend or oppose political regimes, without recourse to evidence of outcomes.

Yet the current political climate in the UK is hostile to this sort of argument, and so it is also necessary to give more pragmatic reasons why this value is important. Successful defence of privacy also offers us protection from at least three different threats. Firstly, there are the criminals who can infiltrate our private lives, steal our money or our identities, corrupt our computers, or simply flood us with unwanted spam. Secondly, there are the accidents that occur, where personal data is released by an organisation, or privacy is lost between peers. Finally, there are generally law-abiding organisations, in the public and private sectors, who might not abide by the rules as much as we might like to think. It may be that they become lazy and share data in a far more relaxed way than is strictly legal, or that criminals infiltrate them from the inside.

The risk from insider attack is perhaps the worst of all, because the organisation cannot function without trusting them, and its leaders will be reluctant to question internal practices should something go wrong. As Schneier puts it, 'automation makes individual attackers, once they've perfected a break, much more dangerous.'[71] For instance, a national children's database will not necessarily protect children from those professionals who themselves have access to it. Worse, it could provide a false sense of security where internal threats don't show up in the data.

On the face of it, these might seem like security threats, and to an extent they are. But it is impossible to tackle them seriously unless privacy is viewed as a right in the first place, given that privacy invasions can often be the first step towards far more significant crime. A society that embraces collection and sharing of information without reservation will find itself constantly firefighting, because that same interconnectedness represents a constant risk.

The real significance of privacy within Britain's current digital agenda is this: people can only be expected to embrace technologies actively if they retain the right not to. In a highly-interconnected society, privacy is the right to disconnect, to be anonymous and to be alone should one wish. No consumer would be expected to sign up to a broadband connection or mobile phone package if there was no way of cancelling it. And yet, industry and government currently try to convince citizens of the benefits of technological modernisation across society, without developing any sincere narrative as to how we may be able to opt out of it periodically or permanently, collectively or individually. For people to engage confidently with an interconnected world, they need both the entitlement and the know-how to limit that engagement when they see fit. A genuinely reassuring policy programme could consist of nothing less.

Evidence of delineation

Judgement as to the best trade-offs between security and privacy, and between personalisation and privacy, is a deeply political question, on which society is unlikely to ever attain consensus. Individuals make risk assessments the whole time, for instance, when deciding to enter their credit card details online. Some will; some won't. For example, twenty-four per cent of American internet users chose to have their browser set not to accept 'cookies', the data which enables a website to remember a user from one visit to the next.[72] Greater understanding and confidence leads to better analysis of risk, and better decision-making, not in the sense that it necessarily leads to the best outcome but that it was taken in the most enlightened manner. However, many of the most important risk assessments and decisions in this area are made by government on our behalf.

Many of the more obvious instances of digital surveillance, such as CCTV, have attracted media criticism, but are generally favoured across the public. Regardless of one's stance on CCTV itself, we do at least usually know that it is there, and in many instances – such as on buses, or in the case of speed cameras – its presence is deliberately highlighted, as a deterrent. Far more problematic questions concern what happens to the data that the cameras capture, and what other forms of data individuals are unwittingly

disseminating about themselves. On the basis that 'the ends justify the means', it is hard to define a limit to police surveillance, where the goal is prevention of either terrorism or crimes against children.

The dilemmas become more pronounced when one considers that data collection operates on a sliding scale, the whole way from tapping the phone of a potential terrorist, to logging the movements of a congestion-charge payer. The former is legitimised through appeals to national security, while the latter is justified in terms of public service modernisation. But what about the grey area in between? Parking on a yellow line is not a crime, but it is now the target of digital surveillance. Evidence shows that the British view their health details as the most personal form of data available, but does this mean that they should never be shared, even if doing so could result in benefits to the individual themselves?[73]

What's required is a role for government that can support the most enlightened individual decision-making, despite a context of necessary clandestine communication. The pervasiveness of digital technology in our society should not be cause for either paranoia or unthinking faith, but intelligent scepticism, supported by government. This support must be provided in two forms. Firstly, citizens need both the right and the opportunity to opt out of types of technological engagement which they believe are not worthwhile. Secondly, they need good information and understanding about what the various trade-offs of the digital age are, so as to be able to take enlightened choices. This requires enshrining privacy rights in law, and offering real choices as to different levels of privacy.

Data handling rules and practices

There are various pieces of legislation covering how data is handled by government and businesses, plus, of course, the various individual policy areas (such as health and education) where bespoke codes and protocols have to be introduced. Here we give brief overviews of three cross-departmental or overarching forms of regulation: data protection, data-sharing protocols and the proposed National Identity Register that is likely to be introduced in the next few years. However, the key to appropriate and lawful data handling cannot lie in law alone, but must be supported by good understanding of that law by all who are responsible for it, and affected by it.

Data-protection law in the UK had to be reformed under pressure from the European Commission, resulting in the 1998 Data Protection Act. The Act states that organisations, including those in the public sector, can only keep information on people for purposes given to the Information Commissioner. Moreover, it must be kept safely, accurately and appropriately to the purpose given. Information cannot be held for longer than

necessary, and cannot be shared without the individual's consent. Exemptions from these rules include activities of intelligence agencies, and, with various complications, records kept by health professionals.

Evidence in the UK suggests that data protection tends to act as much as a code of best practice as an enforced law. Penalties for contravening data-protection law are relatively small, and it is often practicably impossible to assess whether the law has been broken or not. Critics of the UK's current data-privacy culture point to the fact that the Information Commissioner currently lacks the resources or the right to enforce data-protection law. By some international comparisons, the UK's data-protection regime is relatively weak. Canada, the world leader in e-government, operates a system in which a number of privacy commissioners can actively block legislation at an early stage, if it appears to threaten principles of data protection. These commissioners are not just enforcers of law, but act as public advocates for privacy protection. In the UK, by contrast, departments are able to develop whole systems of data storage without consulting the Information Commissioner.

As far as data sharing is concerned, the Government has no legislation specifically to support data sharing with consent. The limits of data sharing are set by the Data Protection Act, and departments can operate anywhere within those limits. However, the Government has stated its commitment to a uniform model of data sharing across the public sector that safeguards and even enhances privacy, and means of achieving this are still being pursued within the Department of Constitutional Affairs (DCA).[74] Following a 2002 report on data sharing by the Government's Performance and Innovation Unit, the DCA has published guides on acceptable levels of data sharing within the public sector, and a public service guarantee for data handling, to explain to the public what they can expect from the way that data is held. The DCA has opted not to pursue the idea of introducing primary legislation to facilitate data sharing with consent

Finally, the National Identity Register, as defined in the Identity Cards Bill, will act as a central database on which a range of details about individuals will be stored. The legislation has been developed in the Home Office, but the core purpose of the policy has been hard to ascertain. The Government has offered a range of reasons for introducing a national ID card and National Identity Register, including prevention of benefit fraud, prevention of terrorism, prevention of identity theft and authentication in e-government services. Generally speaking, taking these claims, together with the location of the legislation within the Home Office (as opposed to the Cabinet Office, say, or DCA), we can surmise that the policy is chiefly driven by the need to uphold security, law and international migration protocols.

It is worth appreciating the importance of the international climate in shaping this piece of policy. The Government argues that biometric identifiers form an inescapable part of the international landscape of the twenty-first century, for a variety of reasons. Firstly, in 2002, the US Government passed legislation stipulating that 'in order for a country to remain eligible for participation in the visa waiver program its government must certify that it has a program to issue to its nationals machine-readable passports that are tamper-resistant and which incorporate biometric and authentication identifiers.'[75] The UK Government has reasoned that it would be most cost-effective to incorporate its ID card scheme into its obligations in this regard. Secondly, the Council of the European Union decided in 2004 that all EU passports should be standardised, and contain biometric identifiers. Finally, the Home Secretary has suggested that the ID card would be a necessary precondition of the UK entering the Schengen area, the border-free zone which spans most of the EU.[76]

Personal details to be stored on the register will include three biometric identifiers (which will also be held on an identity card), residence, former residences and details of change of residence or type of residence. It will also contain 'information about numbers allocated to him [the registered individual] for identification purposes… and documents to which they relate', in other words, *other types* of identification such as passport, NHS number or National Insurance number. Unlike the protocols being implemented and developed by the DCA, this new legislation will allow the Home Secretary to pass on information held on the register to other parties, for reasons of 'public interest' *without the individual's consent*, and without them being able to demand to know how their data is being used. These last two aspects of the legislation mean that the Identity Cards legislation, if passed in this parliament, will adjust the fundamental relationship between the individual and the State, such that the individual is no longer the gatekeeper of his or her own identifying information.[77]

Understandably, the national identity card legislation has been the focus of heated public debate. Various organisations, including a team of experts from the London School of Economics, have suggested that the legislation would conflict with data-protection legislation, on the basis that the function of the register is too ill-defined.[78] The Information Commissioner himself has voiced a similar concern on a number of occasions, arguing that 'further clarification is also needed regarding the nature and extent of the personal information which will be collected and retained, plus the reasons why such a large amount of information needs to be recorded as part of establishing an individual's identity'.[79] Criticisms also focus on the security risk inherent in centralising so much

data on one database, and suggest alternative models in which more data is held on the card, and less on the register.[80]

Enlightened choice

The Government and industry are keen for individuals to engage with digital technology for a variety of reasons, including public sector efficiency, opportunities for new markets to develop and a basket of goods known as 'digital inclusion'. In the previous chapter, we saw that Britain's digital infrastructure is of a highly competitive nature, but that the proportion of people putting it to sophisticated uses remains fairly low. We would suggest that the fears induced by digital technology need to be taken more seriously, and that these fears are related to privacy concerns. Evidence suggests that engagement with ICT grows outwards from the user, starting with the most intimate uses, through more social uses, until technology is employed in interactions with public bodies and institutions. The Government will need to understand and work on the terms of this cautious psychology, if it is to win trust for its modernisation programmes.

Some of the most significant evidence in this area does not relate explicitly to privacy at all, but to the concept of 'media literacy'. At present, the job of promoting media literacy in the UK lies with the communications regulator, OfCom, for whom it offers an alternative to hands-on regulation of networked media such as the internet. OfCom adopts a fairly open-ended definition of media literacy: 'the ability to access, understand and create communications in a variety of contexts.'[81] The reason why this concept may be useful here is that it offers valuable insights into how people gradually become comfortable with digital environments and new technology.

A close examination of OfCom's literature review of media literacy reveals the discrepancy between private uses of ICT in the UK, and more public uses. Mobile phones are the most pervasive of any new ICT in the UK, with around eighty per cent of people owning one, and sixty-three per cent of British society using them for text messaging.[82] The significant aspect of this is that phones are both symbolically and functionally technologies of private interaction. They are symbolically private in the way that they sit close to the body, and accompany people wherever they go. Meanwhile, they are functionally private in as much as they enable social contact principally with those who we already know. Unlike with fixed-line phone numbers (which are listed in a telephone directory) or email addresses (which appear regularly on the internet), we are the gatekeepers of our own mobile phone numbers. As a result of these functions, mobiles support closed social worlds, and it may *because* of this rather than despite this that people feel so comfortable interacting through them.

Technologies which facilitate more open or more public interaction have not won the enthusiasm that mobile phones and text messaging have, other than in niche communities of early adopters. Britain has unusually high digital-television penetration, but only thirty per cent of viewers have ever used the technology to interact with a programme or service (though this is partly due to the technological limitations of the freeview set-top box).[83] People hesitate before jumping into larger, more mysterious networks. Fifty-four per cent of people in the UK say that 'going online puts privacy at risk', and there remains considerable consumer anxiety about spam, viruses, phishing scams and identity theft. The internet is still perceived as a dangerous public space by a large proportion of the British public, and although they may not describe this concern in terms of privacy, they experience it as a type of connectivity that threatens their personal space and autonomy, and which many would rather do without.

The purpose of this brief overview of media literacy evidence is to demonstrate the natural psychological tendency to opt out of, or impose limits around, technological functions that are not entirely understood. People may not expressly state that they are concerned about their privacy, *vis-à-vis* the government, but this cannot be interpreted as an enthusiastic endorsement of greater collection and sharing of personal data. Attitudes to privacy, as assessed by opinion polls, do not necessarily reflect the full comfort (or otherwise) that people feel about use of data-collecting and data-sharing technologies. What the evidence shows overwhelmingly is the murkiness of data-collecting and data-sharing technologies in the eyes of the citizen. For instance, sixty-four per cent of people say that they do not feel well informed about what data the Government keeps on them, yet an over-whelming majority of people feel uneasy about data-sharing between government departments.[84]

Taking a user-oriented perspective, the purpose of constitutional checks and balances is to support trust, not just in one-off interactions, but in the whole system of government. As the authors of the LSE identity cards report put it, 'public opinion should be separated from public trust'. Not everyone identifies privacy rights as an important issue when speaking to opinion pollsters, but ICT users demonstrate an unerring tendency to regulate their own use of digital networks, and to shut out riskier forms of interaction. Constitutional checks and balances, such as data protection, ought to ensure that e-government is a more trusted and welcoming domain of interactivity.

Yet for privacy rights to be meaningful, people must also know that they exist, and be able to exercise judgement over whether or not to exercise them. In the first instance, this requires awareness of, and satisfaction with, the pieces of legislation outlined above. Evidence on this is pro-

vided by the Information Commissioner, and is not altogether encouraging. In 2004, forty-five per cent of people reported that they were unaware of their rights to access personal information held about them by organisations, and only forty-two per cent of people said that they believed organisations handle personal data in a 'fair and proper way'.[85] Meanwhile, sixty per cent of people said that they never request to see information held about them, though it is difficult to specify whether this is due to lack of understanding of their rights, or lack of concern over privacy.

In the case of the National Identity Register, the picture is more complicated. As Mathew Kabatoff explained in his Digital Manifesto paper on identity cards, there is an important unanswered question surrounding this policy: 'does the population feel comfortable with the fact that they are *not* "entitled" to know what their personal information is being used for, especially in regards to security and police services?'[86] The Government's own polling on ID cards showed eighty per cent of people in favour of the policy, but forty-one per cent of people not trusting government to hold their data securely, and forty-eight per cent of people saying that they would not want to pay for such a card (which the current scheme would require).[87] Overemphasis on the tangible, visible aspect of the policy (namely the card) means that there has been relatively little public discussion of the more significant, invisible aspect of how data will be handled by the Government. The House of Lords Constitution Select Committee has suggested that the legislation should really have been titled the 'National Identity Register Bill', rather than the 'Identity Cards Bill'.

Principles of intervention

It is not clear that Britain's constitutional arrangements are in harmony with its current modernisation agenda. The Information Commissioner is not sufficiently empowered to steer legislation as it is being developed, nor to block legislation should it contradict pre-existing laws and protocols. Worryingly, departments can develop the information architecture of ICT systems, without consulting the Information Commissioner at all. Meanwhile, it does not appear at present that the DCA is a party, let alone an equal party, in the development of e-government and surveillance strategies. The gap between the rhetoric of constitutionalism and the reality of pragmatism is potentially damaging to public trust, and people's willingness to engage with digital media. We argue that the two things are intimately linked.

The argument outlined in this chapter is that the institutions, laws and norms that define the limits of modernisation are not symptoms of con-

servatism, but necessary components of technological progress. In particular, given the ease with which information can now be collected and shared, the case for strong and publicly visible boundaries to be drawn around different spheres of government becomes stronger, rather than weaker. We are anxious as to the apparent imbalance in power between areas of government responsible for due process (the DCA and the Information Commissioner), and those responsible for public service reform or security (the e-Government Unit and the Home Office).

It is difficult to give clear evidence of the *usefulness* of checks and balances, but it might be helpful to think of it from the perspective of the citizen. ICTs offer plenty of scope to interact on a range of different levels, from one-to-one intimate text messages, through email circulars, to transacting with large institutions. But in order to take each step, people require assurances. Assurances that they won't be overwhelmed by excessive information, assurances that they won't unwittingly give away information about themselves, and assurances that they will have support when things go wrong. Systems based on law and rights, on the other hand, offer certain assurances at a public level first and foremost. We offer the following principles of policy intervention.

Principle 1: Controls placed on innovation can themselves spawn innovation
When faced with emerging technologies such as Radio Frequency Identification tags, the temptation is to see their presence in society as inevitable and unquestionable. Policy-makers fear that regulation or, in extreme cases, banning new technologies on ethical grounds, will scare businesses, and make politicians seem out of touch and retrogressive. This is not necessarily the case. Legal limits on what is permissible for organisations or individuals can often be the condition of more innovative responses. Regulation can lead to a 'race for the top', and not just a 'race for the bottom'.

A couple of examples illustrate this. When the California State government introduced a legal limit on car emissions, rather than damage the Californian economy in any way, it forced all US car manufacturers to introduce better technology for this purpose.[88] The Californian car market was simply too big to ignore. Perhaps more pertinently, the French planning regulations limiting use of satellite dishes on homes forced the market towards far-higher-bandwidth internet access than is common in the UK. As the German economist Wolfgang Streeck argued a few years ago, regulation can act as a 'beneficial constraint' on otherwise short-sighted economic behaviour, forcing actors onto a 'high road' towards wealth creation.[89]

Principle 2: Support choice over a citizen's level of engagement with the digital age
Successful use of ICT to improve services in both public and private sectors will depend on users engaging with the technology in a confident and enthusiastic fashion. Human psychology will tend towards risk aversion where technologies are new, requiring extra guarantees that rights are protected, and systems are secure. The best way to develop trust and confidence in ICT is to allow for gradual steps towards full engagement, part of which includes a variety of different levels of privacy protection. Clearly, a large number of users will be keen to allow data to be shared as much as possible, in the interests of joined-up government, and we certainly should not allow the privacy lobby to become an obstacle to such improvements in public services. But the number of those wishing to engage in this way is likely to increase, once the user is given control over how data is shared, and given the right to opt out. For instance, it is necessary for constitutional purposes to consider how mechanisms allow for opt-out, for the important reason that citizens may not trust future governments to the same extent that they trust the present one. It is this sort of historical perspective that is lacking from current policy thinking.

Principle 3:Trust is not always dependent on identification
There are plenty of circumstances in everyday life in which we can demonstrate that we are entitled to something, without it requiring us to identify ourselves. For instance, a prepay travel card simply ensures that we get access to whichever modes of transport we are entitled to, without having to state who we are. Equally, credit cards are ways of demonstrating that one is credit-worthy, without revealing who one is (although the credit card company needs to know this). There are all manner of ways of creating trust between strangers that do not involve them having to identify themselves.

Online environments apply pressure on these norms and practices, but a recent development known as 'federated identity' offers a way forward. In a federated-identity system, the user gives a wide range of personal details to a trusted third party (TTP). Every time the user signs up to a new service, the service supplier goes to the TTP automatically, and requests relevant information on the individual. The TTP checks with the individual that this is appropriate, and on confirmation the data is given to the service supplier. Very often, two different service suppliers may wish to improve their personalisation through sharing data, in which case they go back to the TTP, who again asks the individual's permission. Using a system of federated identity, the only body who could be said to know the identity of the individual is the TTP; all other organisations only know facts adequate to deliver services.

Principle 4: Decisions about how to handle data within government must always ultimately reside with people, not ICT
Data-protection legislation has regularly come under the spotlight in recent years, when it has been a source of confusion or error inside government. The Bichard Inquiry recommended that 'better guidance is needed on the collection, retention, deletion, use and sharing of information, so that police officers, social workers, and other professionals can feel more confident in using information properly.'[90] Databases are very powerful tools for filtering personal information, and this offers unprecedented opportunities to create public services that are better targeted at the most needy, and more efficient. However, this poses significant threats where individuals are stigmatised by negative profiling, or inaccurately profiled for whatever reason.[91]

Databases and personal profiling can continue to be useful ways of speeding up bureaucratic processes, but they must never become substitutes for judgement and common sense. Allowing automated processes to determine outcomes leads to unintended or emergent effects, which may be deeply undesirable. Institutions, norms and skills are the way to build trust in the digital age, not more intricately crafted digital networks.

Principle 5: Effective privacy protection is often the best form of security
The reason we put locks on our front door is not reducible to just security or just privacy. It is a combination of the two. The same is true of our reasons for protecting data. Yet despite its appeals to 'joined-up government', the Government's current policies towards data protection and security seem to point in conflicting directions. A coherent strategy for data security in government would not only reinforce data protection, it would be the same thing. It is for this reason that so many security experts have grave misgivings about the information architecture underlying the national identity card scheme, in particular, its pulling together of so much disparate information onto one register.

Principle 6: Educate about the digital age, don't just train for the digital economy
Digital technology is becoming a 'second nature' in our society. Like nature it is ubiquitous, and like nature it operates according to its own laws. In the eighteenth century, the Enlightenment beckoned all people to escape what Immanuel Kant called their 'self-imposed immaturity': to take charge of both inner and outer nature, and shape society according to rational principles. Two hundred years on, children are taught about the periodic table of elements, or how the human bloodstream works. Meanwhile, artificially constructed networks of digital connectivity are, for most of us, utterly impenetrable and invisible. An enlightened public in

the digital age would not only be trained in the use of software, so as to compete against South East Asia, it would be one which understood this infrastructure that otherwise threatens to confuse and mislead.

3. Recognition: democracy in the network era

It is not in the nature of governments to give away power. Constitutional reform looks invariably attractive to the disenfranchised or disempowered, but risky and time consuming to those in control of policy. New Labour may have devolved power to Scotland, Wales and directly elected mayors, but as a number of commentators have pointed out, this type of reform agenda may never have happened at all, had it not been legislated for within the first year of coming to power. As the realities of government become plain, power becomes an ever more precious asset, and not one that would be compromised through, for instance, the introduction of proportional representation in Parliament.

But technological change will occasionally weaken the power of political authorities, whether they like it or not. The birth of the printing press made possible the modern public realm, which weakened the control that authorities could exert over the written word. A few hundred years separated the invention of the printing press from the emergence of newspapers and pamphleteers in the mid eighteenth century, and it was another hundred years before literacy began its penetration across society at large. Today, however, it is accepted that newspapers control a certain amount of the political agenda, and we express little surprise when we hear that a minister has had lunch with a newspaper editor.

Global telecommunications networks developed rapidly from the 1960s onwards, with similarly disruptive implications for governments. These enabled companies to globalise their manufacturing supply chains, and to offshore various service outlets. Among the most dramatic economic consequences of global telecommunications networks has been an increase in the agility of capital markets, whereby vast amounts of wealth can now flow in and out of a nation or individual company in minutes. Flows of what became known as 'hot money' notoriously destabilised economies all over South East Asia in 1997. Less dramatically, in 1992 the British Government was shown to be incapable of controlling the value of its currency, when it was forced to withdraw sterling from the ERM in the face of pressure from currency markets to devalue.

Both of the above examples demonstrate how governments can lose power as a result of technological and structural change. But in each case, rather than allow new spheres of influence to break away from democratic processes altogether, new institutions were established to mediate

the relationship between government and the emerging power. The UK has a bridge between the autonomous media and the government in the form of the BBC, and a bridge between currency markets and the government in the form of an independent Bank of England. In each case, it proves better to recognise the independence of the power in question formally, than to either disregard it or attempt to control it. Both institutions are self-governing, but nevertheless locked into sustained dialogue with the government and the public.

This chapter argues that the diffusion of networked ICTs throughout society, today and in the future, is contributing to an attack on another government monopoly. This time, troublingly, that monopoly is constitutional democracy itself. People do not cease to be political animals, and they don't cease to seek outlets for collective expression or for public voice. But there is evidently a sense in which they do not recognise official, Westminster-oriented democratic structures. To its credit, the present Government seems genuinely concerned about this, but despite the endless references to active communities and citizenship, they don't appear to know what to do. The question that needs answering is what would be the equivalent of an independent Bank of England or a BBC for the network society, a society in which people are more technologically empowered and psychologically motivated to converse with one another, than to feed their interests into the existing constitution. At some point, perhaps sooner rather than later, government will need to find a way of meeting the 'cultural communes of the information age' halfway.[92]

Why this matters: government and the public realm

Different means of communication enable different forms of politics. Where democracy is dependent on face-to-face conversation alone, it remains rooted to a certain locality and a certain scale. In the modern era, publishing and broadcast technologies have been a necessary factor in the way that democracy has developed, not just in terms of its representative structures, but in civil society and the 'public realm'. We can identify three areas of a democracy that are affected by changes in technological media, aside from more detailed issues about how public services are delivered. Firstly, there is the way that government communicates to the public; secondly, there is the way that the public communicates to government, including through the ballot box; thirdly, there is the way that the public communicates to itself.

The health of a democracy is dependent on the institutions, constitutional structures and practices that moderate these three types of communication. When we hear that democracy or trust is 'in crisis', that participation

and social capital are in decline, this is a reflection on these moderators. Even where evidence appears to contradict this cultural pessimism – as it sometimes does – the mere presence of such anxiety is a reflection that the spheres of communication in and around democracy are not doing their job. We will now consider each in turn, to see how technological change might affect each one.

Government-to-public

Government produces vast amounts of information for public consumption. Official literature, such as White Papers or the parliamentary reports contained in Hansard, come directly from government and Parliament for anyone to read, and the internet has undoubtedly made these publications more easily and cheaply accessible for the public. The fact that the civil service remains politically neutral ensures that official government documents remain trusted sources of information on the activities, past record and intentions of government. However, this type of information is not very accessible or easily consumable, and when a message needs to be got out to the public with greater urgency (for instance, relating to a health scare), leaflets or television adverts need to be employed, and existing public service channels (such as Post Offices or schools) can be mobilised to spread information.

Yet for the most part, government speaks to the public via certain 'brokers', notably the media. This communicative channel is one area of our democracy that seems most broken to many, and came to a head in early 2004 with the Hutton Inquiry into the death of government scientist, David Kelly. Critics of current media activities, such as journalist John Lloyd, argue that the press has lost interest in reporting facts, and allowed its obsession with ephemera and scandal to remove one of the critical means of assessing the real behaviour of governments.[93] Critics of the Government, including large swathes of the media themselves, argue that it has become overly concerned with its own public image, and presents only half-truths to the press. This relationship is not equally tarnished across all forms of media. The obligations of British broadcasters to uphold norms of impartiality contrast with American broadcasters on the one hand, and with British newspapers on the other. For instance, thanks to its lack of bias, BBC Radio's *Today* programme has a quasi-constitutional role in the interrogation of ministers.

How do new technologies affect government's ability to speak to the public? The most significant changes are those affecting what constitutes news in the first place. As Jamie Cowling's Digital Manifesto paper makes clear, technological advances force government into formulating a greater volume of public messages, more quickly and more coherently.[94] More sto-

ries are breaking faster, with responses demanded as they happen. The strain this has placed upon Government has led to an increase in the amount of resources channelled towards press strategy. In this respect, the blame for the breakdown in media-government relations may not lie with either, but be a symptom of an 'always-on', media-hungry society.

The promise offered by new media, on the other hand, is to enable far more intimate government-to-public communications, cutting out the press altogether. The use of weblogs by MPs such as Tom Watson offers one example, though it is a tactic best suited to backbenchers without the doctrine of collective responsibility that constrains ministers.[95] The Labour Party's 'Big Conversation' attempted a similar intimacy, through use of the internet. Presentational considerations and 'spin' are never absent, even where new media are concerned, indeed the mere style of weblogs can easily be aped by larger, more anonymous institutions, thus giving a false impression of intimacy.[96] But where first-hand reportage is genuinely possible, these media provide a different way for political figures to present themselves.

Alternatively, new media can facilitate new, online-only brokerage institutions. Automatic collection of government information can make it more accessible and searchable. Readers may even be invited to comment on it as they read it. The outstanding example of this is TheyWorkForYou.com, an independent website that automatically gathers together the contents of *Hansard*, and enables readers to search it by topic or by MP. Demonstrating a welcome awareness of these new types of relationship, the Government is engaged in an ongoing strategy to work with 'intermediaries' to provide the 'front-end' for Government, although this is primarily in order to deliver transactional services, and not in the form of democratic dialogue.[97]

Public-to-government

Secondly, we need to consider how the public communicates back to government. Again, with the exception of MPs' surgeries or the media-oriented circumstances in which a politician drops round for tea, this relationship is also 'brokered' for the most part. The ballot box provides the most important mediator between citizens and government, but the media also plays a role in representing the public's voice. Neither institution is in the rudest of health in the UK. Turnout at general elections has fallen in recent years, from seventy-one per cent in 1997 to sixty-one per cent in 2005. Meanwhile, concentration of media ownership potentially weakens its democratic function, and where newspapers pursue commercial objectives too wholeheartedly, they may focus on representing public anger and dissatisfaction with government, at the expense of 'good news'

about successful government activities. This may partly explain the phenomenon outlined in Cowling's paper, whereby the volume of media content being produced is rising rapidly, but the attention to news media is falling.[98]

Increasingly in the UK, a different type of mediator is seen as a more effective model through which citizens can express their wishes, namely the market. Many of us may not see the 'point' in voting, and view journalists as less trustworthy than politicians, but one area of our lives in which our preferences are listened to with immense care is when we act as consumers. The importance of increasing choice in public services is that it potentially creates a legitimacy for public services that an ageing model of representative democracy cannot sustain on its own. Of course, the 'choice' in question remains a fairly narrow consumer one. As David Walker, a leading commentator on public service delivery, has written in *The Guardian*, 'you [the Government] are not actually talking about some great expansion of individual discretion in the way people interact with government. You are not expanding choice on the application of planning rules or the criminal law or literacy and numeracy standards.'[99] Critics would argue that the emphasis on choice as a way of exerting influence over government might distract from more consequential alternatives, such as representative democracy.

How do new technologies affect these various forms of communication? Voting makes use of technologies such as pen and paper anyway, and as these become more sophisticated the process can become more efficient, or even distributed away from polling stations themselves. Regular referenda or *direct* democracy, for instance through voting from the home, were often predicted as being the most exciting possible outcomes of the digital age. Yet many deem the potential for corruption or security breaches to be too serious to warrant this form of innovation, as outlined in Kay Withers' Digital Manifesto paper on this topic.[100] Postal ballots have proved themselves open to abuse in a way that polling stations have not; electronic voting could be worse still. Moreover, making democracy easier and more efficient may not be a goal worth pursuing, given how rarely elections happen anyway.

New technologies may create more profound changes in the way that the public express themselves through the media. Digital media are interactive in a way that analogue and print media are not. This means that the public can, in principle, respond directly to government and engage in a dialogue. Successful instances of this have occurred, as with the public consultation on the future of the BBC, run by the Department for Culture, Media and Sport, when several thousand people sent in views via both traditional and new media.[101] Being able to email politicians, and

even the Prime Minister, may alter the way in which that dialogue proceeds.

More likely is that brokers still sit between the public and government. What is called 'e-democracy' needn't just be about automating existing channels of democracy (as with e-voting or emailing your MP), but in creating new types of intermediary that are built around the distributive and interactive capabilities of new media. For example, WriteToThem.com enables internet users to type in their post code, find out who their various representatives are, and then send them a message which will appear out of the politician's fax machine, thereby not getting mistaken for spam. The site is not run by the Government, and exists purely to ease the passage of communication.

As far as quasi-markets for government services are concerned, this is one area where most is expected of ICT. In Chapter One, we discussed how the internet had empowered consumers to take better decisions and spot better deals. There is no reason why it couldn't do the same for public services if, for instance, up-to-date information on the performance of schools and hospitals were made readily available for citizens to judge them by. This could potentially be supplemented with Amazon-style 'recommender systems', in which users of public services rate their quality for the benefit of other users, thereby, in effect, codifying and publicising the function already performed by middle-class social networks. But all of this raises weighty political questions as to whether the institutions and staff who deliver public services should be treated in what is potentially a very judgmental, even scornful manner.

Public-to-itself

Collective representation of opinion or values needn't always be for a purpose. Citizens may make a judgement about something, without it necessarily translating into a demand; there is a difference between a critique and a complaint. When a literary critic dismisses a novel, they are not arguing for it to be pulped or rewritten, and when newspapers attack a government they are not calling for an immediate election, or even, necessarily, for a change of policy. This is what is known as the 'public realm': a sphere of disinterested debate, in which issues are critically analysed purely for the sake of critically analysing them.[102] The role of the media is to provide a trusted conduit between government and the public, but it is not only that. It is also to enable public education and public exchange of opinion as goods in their own right.

One of the principles underlying the idea of the public realm is that of universal inclusivity. This is not to say that this ideal is ever actually achieved, but that it is a guiding principle of editorship and critique. Be it

in book publishing, the national press or broadcasting, the guiding critical question is not only 'do I think this is worthwhile?' but 'is this of broader public interest?' Good editorship or critique involves putting one's own preferences to one side, and adopting a 'disinterested' attitude, to assess the intrinsic worth of a piece of content. Some forms of content are so obviously of widespread interest, such as television images of September 11th, that the question doesn't even arise. Meanwhile, other forms of publishing, such as trade press, are geared quite specifically towards niche audiences, and although their content should be accessible and relevant, it doesn't pursue an ideal of 'universality'.

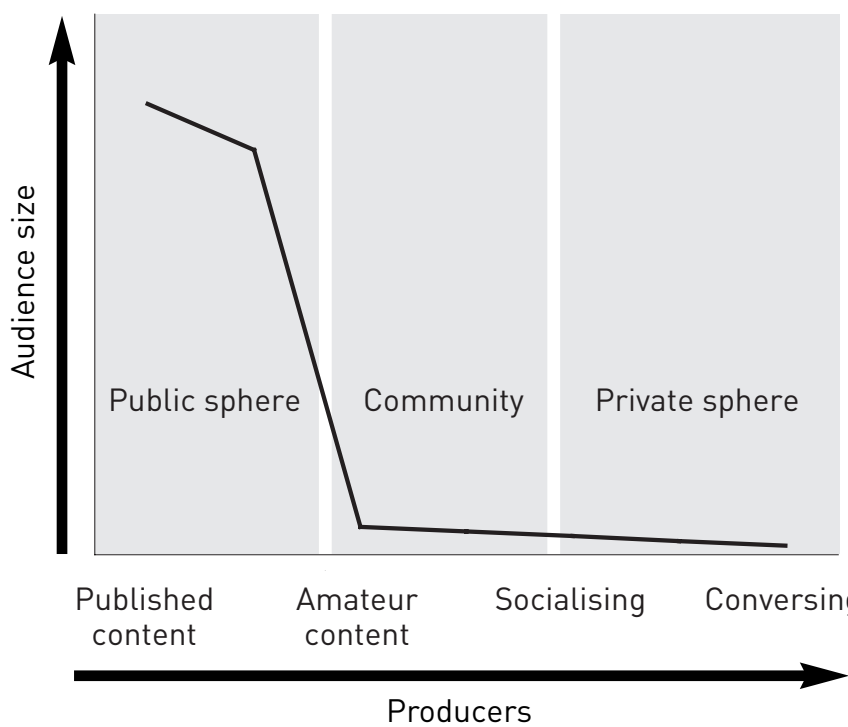
A range of grey areas exist between the two. The interests of a cultural minority, such as an immigrant population, require some form of public representation, but can't necessarily be deemed of universal public interest. How should we respond, as advocates of the 'public realm'? Should we aim to ensure that this minority group has its own separate spheres of debate, in which it can represent itself and conduct debate, or should we seek out ways of integrating its interests into the 'mainstream'? Radio stations and weekly newspapers provide a useful way of achieving the former, while widely viewed entertainment broadcasts, such as Eastenders, provide an opportunity to pursue the latter. Clearly there are two quite different models of 'universal inclusivity'. One seeks to splinter the public realm, until each cultural community has its own separate communicative space; the other seeks to expand a single public realm, to elevate it to a level of generality that any citizen can have an interest in.

It is here that ICT poses some of the most challenging questions. Technological bottlenecks – scarcity of radio spectrum, limited number of newspaper pages – used to save us from having to ask exactly what sort of public realm we desired. To an extent, we had to make do with what we had, and hope that the scarce resources available would serve as many people as possible. But there is no longer any technological limit to how many television stations, radio stations or online newspapers our society can sustain. A consumer can now purchase a digital video camera on the high street for £2,500 with a higher image resolution than the best camera owned by the BBC five years ago.[103] As internet bandwidth increases, amateur television broadcasts will be possible, in the same way as amateur journalism is already made possible through weblogs.

The flip side of this is that citizens are able to select their sources of news and entertainment from a growing plethora of sources. One shouldn't assume that they will necessarily wish to opt for niche forms of publishing over mainstream ones, indeed they may well prefer shared experiences, as the BBC would testify. But there are now endless possible shades of grey between a public broadcast and an intimate conversation, which

pose new dilemmas, not least to regulators. Traditional broadcast and publishing media operated around a principle of 'edit-then-publish'. New media operate around the inverse, of 'publish-then-edit', where the editing in question is carried out by the discernment of the 'web' or the 'blogosphere' itself; in other words the most linked-to or popular content ascends gradually and virally to the public sphere. For instance, web pages that show up on the twentieth page of Google may be public, but they are not *as public* as those that show up on the first.

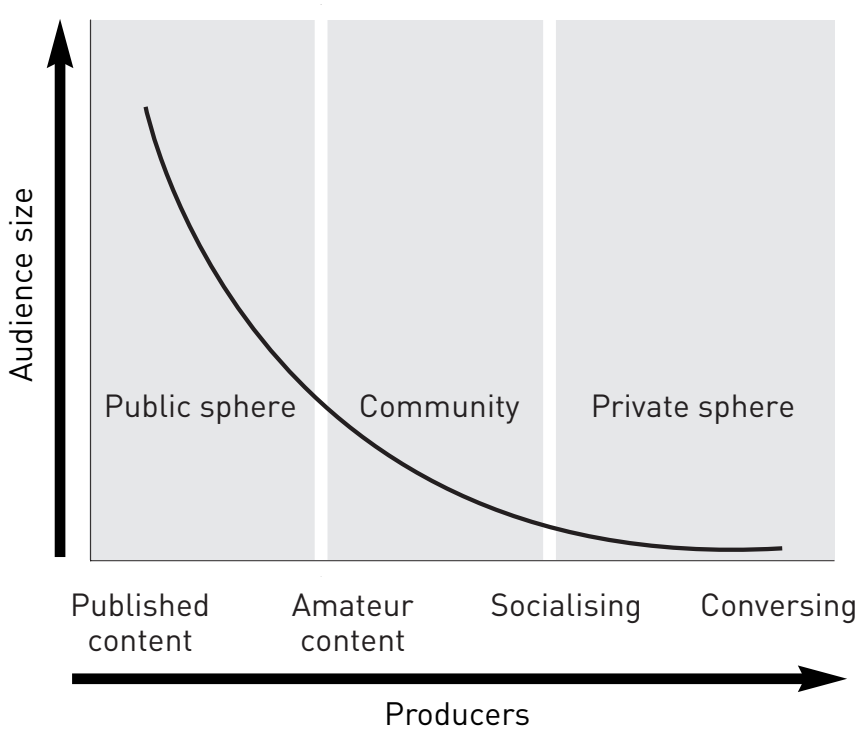
Table 3.1: How information gets distributed under conditions of media scarcity



Tables 3.1 and 3.2 represent the contrasting models of the public sphere in the analogue and the digital age. In each case, the number being heard increases along the horizontal axis, while the number in the audience increases up the vertical axis. In an age of scare media resources, only a minority of people have their voices heard in public, while a large number of people communicate on far smaller, face-to-face scales, be it in the

community or in the private sphere. The downside of this is that people do not participate actively in media, while the upside is that they have shared experiences, due to the relative scarcity of media on offer. By contrast, in the digital age, represented in Table 3.2, media permeate the whole way through society, from a global broadcast right down to a one-to-one email. Endless shades of grey operate in between the two, and there is no reason why a piece of 'content' couldn't move up the curve, if there were sufficient interest across society (for instance, one-to-one text messages from David Beckham have attained global audiences in the past). The downside of Table 3.2 is that the public sphere may fracture into a large number of more personalised experiences, while the upside is the greater opportunity for all citizens to produce their own content. The really significant difference between the two is that Table 3.2 has a far larger proportion of society in the section entitled 'community', at the expense of the section entitled 'public sphere'.

Table 3.2: How information gets distributed under conditions of abundant media



The problem this transition poses to government is that it becomes impossible to specify where the limits of its responsibility now lie. In the analogue age, government regulated content in broadcasting but not in telecommunications, on the basis that the former is naturally public and the latter naturally private. Now that technology has eradicated the *technological* distinction between the two, government and content producers must themselves try and recreate this distinction socially or culturally. How far, for instance, should OfCom or the BBC extend their activities into the area described above as 'community'? Were they to do so, would they know when to stop, or might they run the risk of invading the *private* sphere?

Two questions arise as a result of digitisation of the public realm. Firstly, how do we as a society handle the balance between potentially global, all-encompassing forms of media content, and very small-scale, virtually private forms of discussion? Where do we draw the line between the two, and what expectations or regulations should we place on the large middle ground that exists between a broadcast and (for instance) a group email? Secondly, how can we adapt the principle of universal inclusivity to accommodate the right to be *heard*, and not just the right to be *told*? Do we still need professional editorial filters around the public sphere, or can 'network effects' (such as Google-ranking) ensure that the best or most credible views rise to the top? These may not sound like questions of urgent policy concern, but in the longer term they will be perhaps the most profound ones discussed in this report.

Evidence of recognition

'Community' is now an inescapable, often suffocating presence in contemporary political discourse, having all but supplanted the term 'society'. The reasons for this are complex, and not to be investigated here. The point being raised in this chapter is that new media facilitate new models of social behaviour and communication, which lead to new social units, and new types of identity. For want of a better word, we call these social units *communities* – groups of people (large or small) who willingly enter into public or semi-public conversation, and draw on another for both social support and cultural identity.

Why focus so much on communities when investigating new media's impact on democracy? The answer lies partly in the two graphs outlined earlier. Two trends are affecting the media at the moment, especially influenced by the internet. Firstly, people have a far greater choice of media sources to choose from. Secondly, they have far greater opportunities to feed in their own views and content to the media, be it anywhere between

sharing photos with a circle of friends via 3G phone, and broadcasting a film on the internet. People can now use media to cluster together, in any number that they wish. They will continue to cluster together in audiences of several million when watching *EastEnders*, or in groups of four or five when sharing holiday snaps. What is an altogether new opportunity is the ability to cluster together in numbers of several hundred or several thousand, using message boards, community radio or weblogs. This is why the rest of this chapter focuses on communities, and the extent to which they are formally recognised by traditional democratic and media institutions.

Through developing the mechanisms (policy or otherwise) to recognise the emerging communities of the network age, these can be distinguished from conventional forms of publishing or public service broadcasting. This is to the benefit of the latter as much as the former. A number of commentators have suggested that digital media will herald the fragmentation of traditional forms of publishing, as content starts to float around in a disorganised way, either via a free market or perhaps via a 'gift economy'. Those who wish to safeguard traditional norms of the public realm, and to secure the long-term future for conventional publishing and public service broadcasting, have as much incentive as anybody to understand and recognise community media. As Table 3.2 indicates, there is something vaguely arbitrary about defining one piece of content as 'public' and another as 'community', but there is no harm in drawing some lines in the sand.

We all occupy both place-based and non-place-based communities. The former are otherwise known as neighbourhoods, while the latter tend to be cultural phenomena, such as sporting affiliation, religion, and professional networks. Class plays an important part in which one is more important to us, with middle-class people tending to be more mobile and having more long-distance social connections than working-class people.[104] Wealth tends to result in a weaker relationship to place, or at least to a single place – evidently elites are still dependent on exclusive 'hubs' in which to meet face to face. However, even those who are strongly embedded in their own neighbourhood will have interests and contacts beyond those geographic confines. These are what might be called 'communities of interest': networks, associations or groups that are defined culturally rather than geographically.

In the long term, our constitution will have to find ways of recognising both forms of community. Constitutional democracy has always traditionally represented people geographically. Members of Parliament represent geographic constituencies; councillors represent geographic wards; and ministers act on behalf of the UK. There is little formal constitutional process to represent mothers or animal lovers or the Chinese population

of the UK. Instead, civil society and the media have to create spaces in which these communities of interest can represent themselves should they wish. There is a blanket assumption that there has been a rise in single-issue politics, and an associated demise in the credibility of representative democracy. If this is indeed the case, as we are about to investigate, then that suggests that the media might be implicated.

Digital technology offers significant opportunities to both communities of interest and communities of place. The internet has long been associated with the former, given its unprecedented ability to connect scattered people with niche interests (creating so-called 'virtual communities'). But the removal of technological bottlenecks also offers profound opportunities to communities of place, not only through reinvigorating existing democratic structures built around place, but in creating new tiers of more local media in which people can be producers of content as well as consumers. Let's turn to each in turn, and assess the evidence that exists.

Communities of interest

Through supporting long-distance communication and larger audiences for content, technology enables us to affiliate with others on the basis of shared interest, and not just shared place. As a consequence, technology *potentially* helps individuals pull away from formal democratic politics, which, to date, has been rooted in representation of communities of place. It also, potentially, helps them pull away from their local communities, as early analyses of the internet in American society suggested.[105] Communities of interest are not dependent on digital technology; indeed they are not even dependent on media: Canadian sociologist, Barry Wellman, has long demonstrated how urbanisation is associated with 'networked individualism', in which people can seek out those who they identify with around the city.

However, digital technologies increase the speed and precision of the process whereby people locate, then communicate with, each other on the basis of shared world view, identity or activity. Stephen Coleman's paper for the Digital Manifesto project, 'The Network Empowered Citizen' explored six British case studies in-depth to discover how the internet was transforming the way people associate with one another voluntarily.[106] Coleman discovered that, as a complement to markets and government, 'civic networks can be regarded as a third current in the flow of public knowledge; they are self-help groups for the information society, adding to their participants' capacity to cope with aspects of life that nobody else has an interest in addressing.'[107]

Some of the networks explored by Coleman are communities of interest in the strict sense of bringing people together with quite niche shared

concerns. An example of this would be Pain Talk, a community for those dealing professionally with sufferers from acute pain. When interviewed about the rationale for Pain Talk, Glenn Bruce reported that the site's users had previously operated in isolation, with no means of sharing information, tips or support. Alternatively, they may be far closer to public forums, in which citizens want to use the community as a starting point for further democratic engagement. The BBC's iCan portal is the prime example of this, a quite deliberate attempt to enable forms of democratic participation that don't revolve around Westminster. Alternatively, a site such as Netmums began as a way of sharing information, but scaled upwards to become a collective voice for mothers.

One thing that stands out from Coleman's research is that these communities see themselves as distributors of trustworthy information that is otherwise lacking. It is often either implicit or explicit in this that other media and other figures in public life are not to be trusted to the same degree, or at least not for the same reasons. Less than twenty per cent of people in the UK trust print journalists to tell the truth, and the figure is only slightly higher for politicians.[108] Perhaps as a consequence, the percentage of the UK population regularly reading a newspaper has fallen from around eighty per cent to fewer than sixty per cent in the last two decades.[109] TV journalists, by contrast, are trusted by over seventy per cent of people to tell the truth, which reflects well on the current regulatory framework.

Communities of interest therefore empower people in two ways. Firstly, they give voice and identity to people who may otherwise lack it. This may take place entirely away from the public sphere, and be of no concern to mainstream democracy – for instance, through the use of private but shared online diaries, such as LiveJournal – but it remains a social benefit that government may have an obligation to enable. Secondly, they distribute information that broadcast and print media either do not distribute, or do not distribute in a trustworthy manner. The fact that people turn to the internet in search of information does not mean that they turn away from other media; this is not an either/or.[110] But, at a national and international level, mainstream media appear to have honed their ability to create news, at the expense of their capacity to distribute information. Communities of interest may play a vital role in plugging this gap.

However, it is also worth being alert to the potential downsides of communities of interest. Many theorists have identified a negative potential here, whereby people can affiliate only with those who they already agree with, and thus lose the tension and diversity of the public realm. This threat has been characterised as 'cybalkanisation' or the 'Daily Me', although it is contradicted by recent evidence from the US.[111] Equally,

one of the perennial criticisms of the internet has been that there are no journalistic standards, and that you can't trust *anything* you read online. Bloggers, many journalists will argue, may have a more personal voice, but they lack journalistic skills or ethics. With a greater plurality of digital television broadcasting, many fear that the sacred impartiality of television journalism may be put at risk.[112] Against this, it's worth considering whether bloggers and their ilk may act in a useful critical tension with mainstream media – a 'fifth estate' – helping to keep them honest and accurate.[113]

Britain does not have substantial quantitative evidence on how prevalent these communities of interest are. Evidence from the Pew Internet Institute in the US shows that half of internet users are engaged in some form of civic or interest-based community online. However, research also shows that people are far more likely to engage the longer they have been using the net, and the US is ahead of Britain in this respect. But there are three things that we can assess: what do we know about how people affiliate through shared interests, how much capability do people have to do so online, and how much democratic recognition can these communities achieve?

We have good evidence to help us answer the first question. Despite the declining trend in election turnouts over the past twenty years, people are increasingly likely to sign petitions or attend protests, with the percentage of people willing to do the latter having doubled since the early 1980s.[114] The proportion of people contacting the media has grown by the same rate.[115] However, the likelihood of someone contacting a politician has fallen by about half over the past twenty years. Meanwhile, there is evidence to suggest that informal social ties are occupying more of people's time (such as eating out), while formal membership ties are occupying less of their time (such as attending a union meeting).[116] What this all amounts to is a deformalisation of the way in which people associate and participate. They increasingly choose to do so on their own terms, and enter only those commitments that they can exit easily should they wish to.

The second question comes down to internet access and media literacy. We have already discussed the distribution of internet access in the UK – with ninety-six per cent of people knowing somewhere they can get online for free, and fifty-six per cent of people having home connections. In addition to this, it is worth mentioning that over a quarter of the British population owns a camcorder.[117] But the following caution is made by Robin Mansell, an ICT expert from the London School of Economics: 'Despite the growth in the numbers of internet users, a rather small minority of these users has the capability to use the internet in ways that are creative and that augment their ability to participate effectively in

today's knowledge societies.'[118] Although we don't know exactly how many people are blogging, networking online or using message boards and so on, the Cabinet Office's own research indicates that only twenty-three per cent of the UK population have both high access to digital technology, and the skills to communicate effectively with it. This twenty-three per cent would include basic use of email, text message, online shopping and eBay; the percentage of the population with the skills, confidence and access necessary to participate actively online is, surely, considerably lower.

The final question – how much democratic recognition communities of interest receive – is fairly easy to answer. Coleman's paper suggests that a failure of dialogue is occurring between existing constitutional structures, and informal civic networks, and that political parties are partially responsible. He argues, 'As vertical bodies organised on the basis of hierarchical discipline, parties represent the antithesis of the horizontal, decentralised, acephalous movements that flourish in the online environment…If representative governments are to have legitimacy in a society characterised by widespread online communication and network-empowered citizenship they must find ways of connecting with these incipient circuits of online interconnection.'[119] The lobbying channels that have existed for decades between civil society and Westminster, or business and Westminster, need modernising.

The UK Government has experimented with online consultations, as ways of receiving feedback on policy. The Freedom of Information White Paper was the focus of the first such consultation, and a third of the responses to it came from individual citizens. The UK Online e-democracy experiment, carried out between 2000 and 2001, was another example of attempting to engage with people outside of the place-based, constitutional structures of formal democracy. These aside, there is little evidence of any constitutional capacity via which communities of interest can feed into British politics. And the fact that newspaper editors can lunch with ministers can now be filed unambiguously under the heading of 'problem', and not that of 'solution'.

Communities of place

The importance of locality as a political concern for citizens is not diminishing, indeed there is some evidence to suggest that it is rising. However, the democratic structures that represent place-based communities have lost credibility for many people. Turnout at national and local elections is one manifestation of this, but there are others as well. While sixty-nine per cent of the population are able to name the party of their MP, less than half are able actually to name their MP.[120] The rise in single-issue

politics and communities of interest, as described in the previous section, has gone hand in hand with a demise in participation in formal representative structures, organised, as they are, around geography. But, with the proportion of British people saying they 'discussed politics regularly' rising in recent years, we are right to focus on constitutional issues and entry points to democracy, rather than on the pertinence of politics itself.[121]

It has become a dominant assumption in policy circles that what people lack most is a form of representation that fits with their most proximate social world, namely the neighbourhood. To this end, the Office of the Deputy Prime Minister (ODPM) has recently outlined a vision of neighbourhood governance and greater local control over public services.[122] This might either take the form of entirely new tiers of governance, with some budgetary powers, where decisions can be taken about local amenities and public spaces, or else it may involve opening up the governance structures of existing public service outlets to local input, as has happened with Foundation Trust Hospitals and Extended Schools. This agenda, known broadly as 'localism', is an attempt to devolve sufficient power to local communities such that they can feel able to influence the world around them, but not so much that they might use it towards more fundamental political goals.

The success of such measures is not proven, but the hope is that they could produce a better match between the scale of political unit and the typical day-to-day social horizons of citizens. Certainly, larger geographic units do not seem capable of developing democratic legitimacy: the proposal to create a regional assembly in the North East was defeated in a referendum in 2004, while support for governance at a level higher than the UK, namely the EU, is as low as it's ever been. Cities, meanwhile, may provide some source of cultural identity for people, but turnouts in mayoral elections are no higher than in other local elections, generally around twenty-five per cent.

Are digital technologies helping or hindering this attempt to revive national and sub-national democracy? Again, firm evidence here is rare, but one of the most rigorous studies indicates that digital channels are doing precious little to increase participation or interest in formal democratic politics. People would rather contact their MP by telephone (thirty-nine per cent), or by post (twenty per cent) than by email (twelve per cent) or via a website (four per cent), and fewer still have ever actually used electronic channels to communicate with their representative.[123] However, twenty-two per cent of people do at least know whether or not their MP has a website, which equates to over half of those people in the UK who know who their MP is. Meanwhile, the majority of people are opposed to online voting.

Yet the same research shows a surprising enthusiasm for innovations in the way that constituents can interact with their MPs and the legislative process. On balance, MPs' websites, online government polling, online surgeries and pre-legislative scrutiny are welcomed by people, even if they don't appear to know about or use the services that already exist. Perhaps this indicates one of the abiding problems with e-democracy, that it can too often seem like a wonderful panacea, but not actually deliver substantive change. The UN recently ranked the UK number one in the world for e-democracy, and it has to be admitted that Britain is well served in this area. The ODPM Minister's 'Local E-Democracy National Project' consists of twenty-two Government-supported schemes, such as a councillor's database, online surgeries, and games to draw in children to democratic processes. Moreover, the UK is fortunate to have some highly dedicated vocational software developers, who have built many of the world's leading e-democracy interventions, such as DowningStreetSays, FaxYourMP, and TheyWorkForYou. The developers behind these projects are now organised into a social enterprise called mySociety, which is part-funded by the ODPM.

Yet e-democracy will never be a very convincing sticking plaster over more fundamental constitutional wounds. If people do not wish to vote or participate, technology will do nothing to alter this, indeed as Bruce Davis's Digital Manifesto paper on online banking argued, ICT may sometimes be most effective where it cuts out the need to participate in institutions, and enables an egoistic, self-service perspective on society.[124] Although there was ample discussion about the impact of the internet on the 2005 election, television retains an unrivalled role in British democracy, which the internet is still some way from matching, not least because of the far lower usage levels. But perhaps ICT empowers communities of place in other, less formal ways, potentially in a similar way as it gives voice to communities of interest.

The ability of local communities to govern and represent themselves on their own terms is something the Government has been keen to encourage. The Active Communities agenda in the Home Office and Sustainable Communities Plan in the ODPM seek to encourage more bottom-up, self-organising behaviour. This is often referred to as 'social capital', the 'networks, norms and trust' that bind a community together, and enable it to take action collectively. Social capital varies by place, by socio-economic group and also in quality. Some communities function effectively through quite private, close-knit social networks, but very little openness or trust towards strangers.

The role of media and new media in increasing or undermining social capital has been explored in depth, though mainly in the United States.

Robert Putnam's very influential work on social capital in the US identified television as one of the central causes for a widespread decline in social capital: his research found that for every additional hour that Americans spend watching television, their level of civic participation falls by ten per cent.[125] Moreover, Putnam suggests that digitisation may be partly to blame here, because the sheer choice of channels destroys the possibility of television acting as a basis for shared experiences. By way of response to this critique, a paper published in the UK by economist Martin Brookes argued that public service broadcasters retain a legitimacy by virtue of their ability to produce shared experiences, and therefore potentially support social capital.[126] But even at its best, television remains largely a regional, national and international experience, and not something which connects people to more local news.

New media, on the other hand, are potentially well suited to the latter function. The only available evidence on the relationship between the internet and social capital in the UK does not demonstrate much correlation at all.[127] Largely, people socialise online with the same people they would otherwise offline or via telephone. But where a community has very high levels of access, with content suited to local uses, then potentially interesting outcomes arise. The best piece of evidence for this remains a study carried out in Toronto in the late 1990s, in a suburb with blanket broadband access and neighbourhood email lists available to use. Wired residents knew three times as many neighbours, talked with twice as many and visited fifty per cent more of their neighbours compared to non-wired residents.[128] Wired-communities experiments have taken place all over the UK, but only recently have instigators come to realise the importance of content and social software for facilitating useful outcomes. The biggest scheme of its kind, in Shoreditch, East London, will be worth watching in this regard.[129] Equally, websites which operate nationwide, but which are tailored to help people communicate locally, such as UpMyStreet, UK Villages Online and The Local Channel, may start to affect social capital as internet penetration rises.

The internet is likely to replace other local media, in the specific circumstances where it offers some better functionality. One of the clearest cases of this is in local advertising, where sellers and buyers can find one another with great precision, by post-code and by product. Already, eBay offers a localised service, so that goods (such as a sofa or car) could potentially be exchanged face-to-face. Equally, for neighbourhoods or streets that have their own governance arrangements, neighbourhood watch schemes or local news leaflets, it would make sense for these to be at least accompanied by email lists or message boards. Community portals, such as Balham.com in South London, already demonstrate how a community can itself build useful focal points for local discussion and trade. However,

these resources are most likely to arise where media literacy and social capital are already fairly high, and may be harder to nurture in the communities that arguably need them most.

The other new local activities facilitated by new media lie in broadcasting. The eradication of spectrum scarcity doesn't just open up the possibility of endless new national or international channels; it also offers the opportunity to broadcast at a far more local level than was previously possible (or at least, legal). Analogue television would not sustain broadcasting at any level beneath the region, but Britain already has examples of broadcasting at the level of the City (BBC Hull Interactive) and the neighbourhood (Tenantspin in Liverpool). The 2003 Communications Act, meanwhile, created measures to grant licences for 'Community Radio' stations, intended to serve either a neighbourhood or a community of interest with non-commercial motives. In March 2005, The Forest of Dean was awarded the first full-time licence, with several more likely to follow over summer 2005.

Once again, we know very little about how these ultra-local broadcasters are succeeding, in terms of audiences and contributors. One hope underlying them is that they give voice to local people, and not just more local news. Certainly, Tenantspin is as much about engaging local people in the production of content as in the consumption. But an additional hope must be that they create a form of 'local public realm' to accompany the more local governance structures that are being gradually introduced in public services. This, as I have argued elsewhere, is potentially the necessary tonic to devolution of services: 'It is easy to shrink the sphere of political responsibility (for example, to make health or education a local responsibility), but far harder to shrink the public sphere that feeds into it and criticises it. Attempting to revive civic engagement through devolving *additional* power to local communities could be like attempting to motivate a lazy dog by throwing its ball *even further*.'[130]

Principles of intervention

The above analysis poses two challenging questions. Firstly, does anybody genuinely want government to offload its responsibilities to communities? It is easy to charge government with 'control-freakery' and excessive 'centralism', but for most citizens this is the condition of an easier life. Government itself may have much to gain from distancing itself from services that it is struggling to improve, given that it would no longer be deserving of blame. But who really would want to get involved in service delivery and policy on a day-to-day, voluntary basis? Early signs from Foundation Trust Hospitals suggest that local activism and social capital

may not, in many circumstances, be adequate to sustain a strongly devolutionary programme.

Secondly, does government actually have any role in much that has been described in this chapter? Communities of interest and communities of place are likely to feel most empowered when they themselves have initiated, created and governed whatever new media institution is in question. The communications regulator grants access to the radio spectrum, and the BBC is involved in many exciting local and civic uses of new media, but government (be it local or national) is most effective when it restricts itself to publishing relevant information and ensuring that elected representatives are responsive to whatever channels citizens select. As forms of civic, political and cultural activity that go on away from mainstream politics, much of this is beyond the remit of government by its very nature.

So what principles should underline government action, and what policies result? One goal should be to recognise independent mediating institutions between formal politics and the forms of informal politics that are currently pulling away from constitutional democracy. As this chapter began by identifying, Government has successfully negotiated loss of sovereignty in the past through institutions such as an Independent Bank of England. It must do so again out of recognition for the communities that feel alienated from the political process. Another goal should be to develop regulatory mechanisms capable of sustaining a healthy public sphere in an age without technological bottlenecks to police. The UK has done well to create an integrated communications regulator early, thereby anticipating technological change rather than reacting to it. But OfCom is still developing the appropriate tools for the digital age, and lacks the conceptual or legal apparatus to affect the grey area between community activities and public broadcasting.

Principle 1: Democratic structures should not introduce more technological interactivity than the constitution can sustain democratically.
E-democracy has often been rightly castigated for producing gimmicks, of the 'Text the Prime Minister variety'. This is unwelcome for a variety of reasons. Firstly, it creates a negative stereotype for e-democracy among more 'serious' political thinkers and policy-makers. Secondly, and more profoundly, it creates an image of interactivity that is not supported by constitutional reality, just as glass parliament buildings produce an image of transparency. In Robert Putnam's words, 'the ability to send a message to president@whitehouse.gov can give the illusion of much more access, participation and social proximity than is actually available.'[131] If we are not careful, the dawn of interactive media may actually hamper the progress of sincere democratic dialogue. On the other hand, pre-legislative

scrutiny and public consultation are activities that should be warmly welcomed, and which have become significantly easier thanks to the internet.

Principle 2: e-democracy should draw people into the public realm, not collapse the public realm into the home

British people are most comfortable using ICT interactively when it is towards quite private and personal ends. Text messaging is a dominant means of socialising today, while shopping online is the prime transactional use of the internet for the vast majority of people. Somewhat dispiritingly, ICT is often most effectively integrated into our everyday lives when it enables us to *avoid* engaging with institutions, strangers or public spaces. The risk is that e-democracy is no different, and makes democratic processes so seamless and user-centric that the 'user' (formally known as the 'citizen') no longer has to accommodate the views of others or make the effort to leave the house. How might e-democracy pull in the *opposite* direction to the other trends of the consumer age? The answer is 'with great difficulty', especially given that e-government policies are themselves dedicated to achieving the same levels of customer service as the private sector. However, the following types of policy might point in the right direction.

Principle 3: New media require a middle ground between regulation and laissez-faire

The distinction between telecommunications and broadcasting has now been eroded technologically, and is gradually becoming eroded socially. As Table 3.2 showed, our society now has endless shades of grey in between a CNN global broadcast, and a one-to-one intimate email. Government finds it harder to specify the limits of its responsibility, with free-marketeers arguing that digital technology removes the need for broadcasting regulation, and communitarians pushing for more publicly supported local or small-scale media forums. In particular, the BBC has found itself buffeted in both directions over the past few years.

The communitarian argument is strengthened by a growing body of evidence showing that quality of life is heavily dependent on local and social circumstances, often lying outside of the bounds of the traditional welfare state. But it is rendered somewhat toothless by the inability of government (or for that matter, the BBC) to intervene effectively in every neighbourhood and self-organising network in the country. Speaking at a Digital Manifesto event in March 2005, Ben Anderson of the University of Essex pointed out that if we believe the internet is a connecting mechanism, which carries significant benefits for happiness, job opportunities, and health, then we have to ask why Government doesn't attempt to pro-

mote *marriage*, given that this brings even greater benefits in exactly these same areas.[132] The question is, what might lie between traditional regulation (for instance, public service broadcasting regulation), and total laissez-faire (as is currently the case for most telephone calls).

Self-regulation of news and entertainment providers has always been a critical part of our media regulation, but is becoming more important, not less. The digital era creates an urgent need for new professions and associations to offer public guarantees for the conduct of their members, such as the Association for Television on Demand. Government cannot interfere here, except tacitly, through retaining the right to regulate new media actively should all other options fail.

Principle 4: Support a 'multi-tiered public realm'

Technologies such as the printing press and television broadcasting lend themselves to a particular scale of communication, which has historically corresponded to national audiences. However, endless new geographic tiers of media distribution become possible, thanks to new media. We can receive global, national, regional, local, and private content via the same medium, and can pass it on in one-to-one or few-to-few forums. An RSS (Really Simple Syndication) reader, for instance, can automatically collect information from a global news source, a community-of-interest bulletin board, and the weblog of a close friend, all to be read on the same platform. We should aim for a 'multi-tiered public realm', which aids this geographic nesting effect, helping individuals identify themselves as citizens of a neighbourhood, of a region or city, a nation, and of the world simultaneously. The world wide web should not be viewed as a placeless medium, indeed 80 per cent of content on the internet is said to contain some type of spatial data. Mapping and 'geo-tagging' (the linking of pieces of information to specific locations) are important functions of the internet, especially in public services.

Principle 5: The question of inclusion is a content issue, and not, in the first instance, a technological issue

Chapter One laid out the importance of developing Britain's skills and technological access as a major factor in our nation's economic competitiveness. But when we talk about universal inclusivity, this is a civic issue, and not a market one. Digital inclusion becomes an urgent issue once a certain form of content or service is *only* accessible via digital means, and in our media landscape this is due to happen to television. Digital switchover (the turning off of the analogue transmission signal) is set to happen at some point in the next seven years, and requires careful handling to make sure that nobody is unable to carry on receiving broadcasts.

The importance of this is that television is unambiguously central to our public sphere in the UK, in terms of the numbers watching it, and the sort of content that dominates it. It would make no sense to argue that television sets themselves are a civic entitlement, so the argument must be that people should be included for reasons of content. It is far harder to make the same case for new media, given that the internet is as much a communication platform as it is a content platform, and that broadband roll-out is all but complete. UK Online centres have put free access points within walking distance of all, and non-users express no interest in using the internet. Once again policy-makers must focus on the content that people need, and not on some ill-defined entitlement to hardware.

Equally, there may be ways in which content can be fitted around people, rather than vice versa. For instance, in a submission to the Digital Manifesto public consultation, Beth Porter argued that the UK should make 'a real investment in voice-based presentation. It's amazing how designers of the best children's sites have created truly accessible sites hubbed around speech technology without sacrificing interactivity. Sadly there are all too few examples for adults, though a few aimed at disabled people. There's no reason why all sites and other Net communication, such as email, cannot adopt and further develop this as a priority.'[133]

Conclusion: a manifesto for a digital Britain

This report has sought to convince its readers of the significance of technological change in the UK, using evidence and arguments. By laying out principles of policy intervention in as plain language as possible, it might hopefully inspire and influence further policy debate, amongst a wider range of stakeholders than is currently the case in Britain. The task up until now has not been to offer solutions to immediate policy problems; the overemphasis on micro delivery challenges in areas such as e-government can often mean that the political nature of policy choices goes underappreciated. Progressives and conservatives will differ in their visions of the UK's digital future, and if they don't, they should.

In this conclusion, however, we lay out the ippr's own Manifesto for a Digital Britain, with a series of recommendations for areas where modernisation could be carried out more effectively, but with an emphasis on progressive values. This follows the structure of this report, the contents of which are summarised along the way.

Modernising

The UK has an enviable infrastructural base in ICT and telecommunications, which is likely to be key to its prosperity and competitiveness over the next decade. But in all sorts of ways, we haven't developed the skills or imagination to use it effectively. These two phenomena are ultimately related: the strong focus on investing in technology and measuring Britain's most easily quantifiable assets has left social resources, and less quantifiable assets underdeveloped. Businesses are innovating technologically, but without the necessary management changes to take advantage of it. Government has been emphasising getting all services online, and struggling to identify and communicate whether its services are getting better.

We may have reached the toughest stage in the transition to a digitally-enabled economy and government, where the obstacles facing us are hardest to pin down or tackle, being psychological, cultural and local. This goes for e-government, for service sector productivity and for digital inclusion. These obstacles need to be carefully understood and targeted. The following steps should be taken:

- The Treasury should rewrite its accounting standards as laid out in the *Green Book, Appraisal and Evaluation in Central Government*, such that

the cost of e-government includes all necessary training and managerial innovation, in other words, the real cost of successful organisational change.[134] This will mean that e-government will start to appear more costly, but in the long run investment will be made more sensibly and more productively.

- Once the 2005 e-government targets have passed, there will be an opportunity to reformulate the goals of e-government in the UK. These goals should be derived from the interests of citizens in general, and of ICT-users in particular. We argued in Chapter One that many of the benefits of ICT investment accrue to users, rather than the investors themselves. For this reason, it makes sense to establish a set of e-government targets based around user satisfaction, as has been the case in Canada over the past four years. This should include calculations of time savings and service quality.
- The emphasis on the 'knowledge economy' and generalised claims about the 'impact of ICT' have outlived their usefulness. In partnership with the CBI and Intellect, the Government must now work on identifying the ICT-using sectors where productivity gains are being made, then assess and publish what cross-sectoral lessons can be drawn (if any). We recommend that the 'knowledge economy' basket of goods be split in four, and tracked individually: the ICT industry itself, organisational productivity, learning support, and new market structures. Benchmarking pure technological capability, as the DTI and the Economist Intelligence Unit like to, can blur these issues.
- The gap separating innovative and creative practices from the marketplace is widely perceived to be among the most significant obstacles to the future competitiveness of the UK. But it is inadequate simply to chastise scientists and artists for lacking commercial know-how; there is an institutional deficit. Agencies are required that bridge the gap, built on managerial expertise and sympathy for scientific or artistic vocations, rather than the financial expertise and profit motives of venture capitalists. Phil Chang, a former Silicon Valley entrepreneur, has recommended that the UK requires 'Venture Management Intermediaries' (VMI) which invest in *and nurture* new enterprises, prior to their engagement with the highly market-driven world inhabited by venture capitalists.[135] We would suggest that RDAs and/or the DTI consider establishing such VMIs along a public interest company model, whereby the VMI takes enough equity at a level of risk to keep itself afloat, as a public utility.[136]
- A significant obstacle to usage of ICT across society is the lack of trustworthy support available to certain groups. This tends to be dependent on informal networks, and thus on other factors determining these,

such as age and class. For instance, one in three people over sixty-five say they have no source of advice on ICT use at all.[137] This situation is not inevitable: there is market failure going on, which industry itself is best placed to address. Rather than move towards the model embodied by the market for car mechanics (supported by informal networks and railway arches), the British Computer Society and Intellect should look at ways of ensuring that the public has easy ways of locating accredited ICT professionals, who are trained to understand the fears and needs of excluded groups. This requires a professional solution, not simply a better version of PC World, as welcome as that would be.

- A methodical, psychologically sophisticated approach towards the users of government ICT (be it staff or citizen) is required. Low levels of media literacy and ICT skills are a significant obstacle to successful public service modernisation, as is low morale and scepticism among public sector staff. However, these should not be seen as extraneous obstacles to modernisation, but the focus of modernisation: changing attitudes and abilities must be part of the e-government agenda. We suggest that the e-Government Unit build on the research of the *Digitally United Kingdom* report, to develop psychological profiles of different user groups, with a timeline of how these are expected to grow and shrink over the next seven years. Confidence and skills develop over a series of steps, and the Government should consider what these are, and how it can support users in taking them. This will soon be especially critical in the area of health. Technological modernisation should be linked to this timeline, to ensure that user capabilities and investment in ICT are in line with one another.

Delineating

We are concerned about the seeming imbalance between the Government's enthusiasm for public service modernisation and its respect for constitutional due process. It is not clear that the Department for Constitutional Affairs (DCA) plays a sufficiently active role in the delineation of how data can and can't be used within government. In the interests of being 'customer-focused', it would be preferable if ICT systems were designed around the principle of maximum choice for the user, as to how much information they give away, and how engaged they become. Evidence on media literacy in the UK indicates that an ICT user will tend to migrate very cautiously from the most private types of interaction to the more public or open forms of transaction. Individuals should have the right to do the same when dealing with government. Privacy (whether or not it is called that) is not simply a moral principle; it is the basis for security and confidence in a system.

It is pure common sense to be sceptical of a system that is both opaque and comes without legal guarantees, and we believe the Government could do more to improve on both of these, if it wants to encourage enthusiastic and confident use of ICT across society. The following steps would support this.

- Choice as to different levels of privacy is a real possibility, which the UK Government should actively enshrine. The French e-government strategy offers an excellent role model here: 'the user's explicit agreement to the direct exchange of information between departments will be required from the moment when the user is offered a real choice.'[138] We would like to see the Government investigate uses of 'federated-identity' systems, as outlined in Principle 3 of Chapter Two, and consider a multi-tiered option for the National Identity Register, in which individuals can choose to have more information on their ID card, and less information on the Register, should they be concerned about privacy.
- The fear of e-crime is a growing obstacle to confident use of the internet, including for transactions with government. As a joint EURIM-ippr study recommended, there is a need for non-geographic Crime and Disorder Partnerships, to which 'incidents' can be reported for rapid collation and forwarding to those responsible for action, including the 'systems administrators' of the Internet Service Providers who are the front line of both protection and investigation. Such partnerships need to cover the communities concerned with child, consumer and infrastructure protection, as well as financial services and serious and organised crime. They need support from joint investigation teams, plus high-visibility awareness and skills programmes, ranging from basic e-citizenship and security through reporting and investigatory processes to forensics.
- A prime obstacle to the joining-up of government is the worry that personal information may not be shared between functions and departments, even when the citizen requests it. Moreover, many departments trust neither the accuracy nor the security of each other's processes. The first requirement is clear guidance, at the operational level, for those entering, maintaining and accessing personal information, as to those with whom they should share data and how they should check their identity and authorisation. The second is to rationalise the current slew of departmental governance arrangements into a series of well publicised consent-driven routines, akin to those for the files of the credit reference agencies and financial services sector, with default powers to demand information for emergency or enforcement purposes, and realistic enforcement routines and penalties for abuse.

- The responsibilities of the DCA are growing as a result of digital technology, not diminishing. Data protection, data-sharing protocols and freedom of information all lie within this department. We believe that these areas need mainstreaming in Government. A generic Privacy Impact Assessment is currently being developed by the DCA, to help service providers decide when to share data. But the need for this goes further. Each department should be obliged to perform a Privacy Impact Assessment when developing new legislation and protocols, and file it with the Information Commissioner, who is accountable to parliament.
- Constitutional concerns need prioritising further when e-government policies are being developed. The DCA should mimic Ian Watmore's decision to set up a CIO Council (thus creating a community of senior ICT experts across government), and establish a Legal Council of senior civil servants tasked with ensuring that their departments operate according to due process. This should remain in ongoing dialogue with the CIO Council, and work to ensure that public service modernisation, and constitutional reform operate in harmony with one another.

Recognising

ICT doesn't just create the need for new types of policy; it is an enabling factor in new types of politics. Communication in the analogue world was structured by the fairly clear-cut distinction between a television and a telephone. Content transmitted through the former was regulated by government, it was public, and much of it was newsworthy in some sense. Content transmitted via the latter was unregulated, private and only of concern to the tiny number of people engaged in sharing it. However, digital networked media introduce a new grey area between the two, which supports communities in a way never seen before. People are simultaneously audience members and participants, and the extent to which they are one or the other depends on the scale of the community. Community media now represents a large buffer zone between what are conventionally known as the public and private spheres. We do not suggest that the public and private spheres are about to disappear into a soup of communication, but that it will reinforce the integrity of each if society (including Government) can find ways of recognising and speaking to the communities that are a source of identity and support for people, lying between public and private.

- The internet is well suited to local and neighbourhood level communication. The Government is pledged to empower neighbourhoods to take decisions over certain aspects of local services, and should con-

sider a role for new media in this. Questions of access are obviously fundamental here, which may require public or even public-only access points (as with National Lottery terminals). Message boards and email lists are a way of supporting public debate at a neighbourhood level, and may prove especially useful in neighbourhoods with low levels of trust. Official public message boards for local public services would also provide a place where citizens could voice their views on the quality of service, and may help dispel the perpetually negative depiction of services in the national press.

- New media need support between the 'top-down' and the 'bottom-up'. The bottom-up has plentiful energy; the top-down has plentiful money (relatively speaking). A public sector innovation fund should be a permanent fixture, to fund e-democracy innovations at a grass-roots and nationwide level. The Government is set to launch a competition for the most digitally advanced city in the UK, with a £10 million prize, but why only appeal to place-based digital initiatives? Civic- and interest-based online activities should have their own equivalent of this, thereby incentivising high-quality interactive content online. Government will squash intermediary type activities if it endorses them too heavily, or replicates them, but it can offer tacit endorsement by supporting them with grants.
- E-government should not only deal with the consumer, but with the citizen. Well-designed e-government services should provide links and information on why government supplies the service in question, how much it costs, and the political representatives (such as Select Committee members) engaged in overseeing it.
- The BBC is one of the key agents in the development of a 'multi-tiered public realm', because it is a trusted brand at every level between international broadcasting and grass-roots initiatives. However, it lacks the resources to deliver all of the locally generated and tailored content that new media enable. The BBC should develop a BBC Franchise, whereby social enterprises can apply to borrow a variant of the BBC logo, and have BBC content (in particular, news) syndicated to them under the Creative Archive licence. The best vehicle for a franchised BBC outlet would be the forthcoming Community Interest Company model.
- In content terms, the standard reason to worry about the 'digital divide' has been access to educational materials. The Government has done well to tackle the digital divide among children, as evidence in Chapter One highlighted. But another source of concern is around the corner, in the form of the NHS's National Programme for IT, which (among other things) will provide patients with access to their health

records online. In order to maintain a fair and inclusive health service, all adults must be able to take advantage of this, which requires carefully targeted ICT training. This should aim not only at those who are at greatest risk of social exclusion, but at those who perform an important role of informal health care within the family. For this reason, we recommend that the Government investigates how Sure Start might be used to improve the skills and media literacy of mothers and fathers in the UK.

Individual departments inevitably hold greater responsibility for different parts of this agenda than others. The Government no longer has an e-Envoy to sell the importance and excitement of digital issues across Whitehall, so the question of where individual issues should 'sit' will remain a live one for policy-makers and commentators for some time to come. For reasons of utility, the majority of the policy recommendations in this document are presented for consideration by specified areas of Government. However, the persistent complaints that government is too fragmented or too top-down will not be alleviated simply by creating new cross-cutting bodies or new agencies. It is easy (and tempting) to recommend such initiatives, but this only draws new lines in the sand, and they are soon after tarnished with the charge of 'silo mentalities'. What is needed is a shared recognition of how our social environment is changing and can be changed, and it is towards that, admittedly grand, ambition that this report might take a small step.

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