

JAMES CRABTREE AND SIMON ROBERTS
WITH JOHN CURRAN, BAMBOS NEOPHYTOU, REBECCA RANDELL AND CAITLIN SCOTT

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Fat Pipes, Connected People Rethinking Broadband Britain

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NEXT STEPS FOR BROADBAND BRITAIN –

The Broadband Stakeholder Group

Peter Runge House
3 Carlton House Terrace,
London SW1Y 5DG

t. +44 0 20 7004 7100

f. +44 0 20 7004 7111

www.theworkfoundation.com

Executive summary

Broadband Britain had a rough start. Well behind comparable countries in international comparisons, the UK's road to broadband epitomised the confidence slump in the UK technology sector. But today things are looking up. Britain has over two-and-a-half million broadband subscribers – a number set to more than double by 2005, at which time the UK will have overtaken France as the second largest broadband market in Europe. This is because the supply side of the market – how to run, deliver, and price broadband – is working well.

Unfortunately there is a problem on the demand side. Some areas of the country have 100% broadband availability, but take-up could be faster. Now the industry must turn its attention to this issue and work out how to accelerate take-up further. This report attempts to do just that.

We propose a three-stage process to understanding how to increase broadband uptake: adoption, adaptation, and absorption. Following from this, we re-examine understandings of speed and time as they relate to broadband.

Adoption

The process of adoption is the obsession

of the broadband industry and we start by asking why people buy broadband. UK adoption rates have increased in the last couple of years although from a low base. Now the market stands at a critical juncture, ready to reach a new type of consumer – the everyday user. But to accomplish this, those selling broadband must understand consumers' concerns. In particular, two issues stand out. First, broadband adoption does not happen by magic. It is preceded by a number of technological and social developments, or the 'broadband escalator'. Second, a fresh look needs to be taken at the way in which

consumers assess the benefits and risks of upgrading. We suggest a new concept, broadband microbarriers, that will help persuade cautious consumers to adopt.

Adaptation

It would be entirely possible to adopt broadband and not change your surfing habits one bit. The only change would be spending less time online because it would be quicker to do the things you already do. Yet the evidence suggests this is not what happens. Broadband users do more with their connection and spend longer online. Looking at adoption is not helpful here. Instead we need to

EXECUTIVE SUMMARY

Executive summary

understand adaptation: or, how normal people react and ‘adapt’ to the possibilities of broadband. This dynamic process, first of overcoming problems, second of exploring possibilities, is the key to understanding how to help people make the most of broadband. In order to achieve that, users often have to get over the broadband downturn, or what happens when things don’t go entirely to plan.

Broadband alone is not enough: those who use it must learn about its potential. The report also shows how people adapt to the new possibilities of broadband. We identify four ways in which broadband users find out new things about the internet. These are: self-discovery; rediscovery; directed discovery; and proxy discovery.

The most important part of mastering the potential of broadband is what we call ‘wow moments’; the experience of discovering an online activity that makes the internet make sense in the user’s life. Most of these moments are not individual voyages of discovery. Instead they are things people do together and are best understood socially. Broadband users do not actually spend much more time surfing the web than narrowband users, but they do spend a lot more time creating and sharing content, and using community-based applications. Most of the things we watched people doing online – even on trading sites like eBay –

were strongly anchored in the shared everyday experience of family and friends.

Absorption

Adoption and adaptation are important steps in understanding the move from a narrowband to broadband Britain. However, having a connection and finding some cool things to do is still not enough. The final step is taking both and weaving them into the fabric of life. Finding something cool does not mean you actually do it a lot. Some people find things they like and then do them a lot. Others don’t. We dub this process absorption. This continual process of adaptation and absorption drives internet use. The end result of this virtuous circle of adaptation is invisibility, when the technology embeds and is only noticed when it breaks or is unavailable.

Absorption is best understood not as the consumption of content, which features so strongly in the marketing of broadband. Indeed the whole idea of content needs to be rethought. We can best understand absorption as a dynamic social process of creative interaction between families, friends and work colleagues. Broadband is different from narrowband because it allows more things to be created and shared by people. It is not like consuming food; it is like cooking.

Marketing – playing fast and loose

This, in turn, draws into question broadband’s two main selling points:

speed and always-on. Broadband is marketed as being fast. And speed does matter. Consumers see the ‘world-wide wait’ as painful, and view the speed of broadband as an advantage. But it isn’t the be-all and end-all. Speed of connection relates to activity and context. Ever increasing connection speeds enable more activities, but they do not necessarily lead to ever increasing levels of use. And getting things done faster is not always a user objective. Put bluntly, broadband is not just about speed. Equally, but for different reasons, broadband is not always ‘always-on’ and promoting it as such is often ineffective. **Speed’s flipside is time. All too often we assume that broadband helps its users rush to get things done. Our research suggests something quite different. Broadband time emerges as ‘timeless time’ in which users dip in and out of the internet. As one of our respondents said: ‘Broadband is about not having worrying if the peas are boiling over in the kitchen. Broadband time is about taking it easy.’**

Chapter 1

Introduction

Imagine a Britain with 20 million broadband users.
What about 40 million? Will it be different? Will it be better?
It could be.

This is a report about broadband. It tries to explain why faster internet access matters. It explains this by describing how having faster internet access can change what people do in their day-to-day lives, and in turn, analysing why this is so.

But more fundamentally, this report is an argument. It is first and foremost an argument about how we, as a society, should understand the social impact of technological change. This is something the iSociety project at The Work Foundation has been grappling with for the past two years. We think we have some useful perspectives that can help government, the technology industry and those who use technology get a

stronger grip on how these gadgets alter the behaviour of their users.

Second, it is an argument with the UK technology industry about how we should understand what broadband is and what makes it good. We think those who sell broadband have missed a trick in understanding how and why people use the net. We are too enamoured with the clever things the internet can do, and consequently miss the simple and most valuable experiences. The ways in which normal people use technology to extend and enhance their everyday lives should be the basis for any sensible understanding of technological change. We have put these at the heart of this report.

Britain can scarcely afford to be complacent. We may no longer be in the embarrassingly backwards position of a few years ago. But Britain remains sixth out of seven in the G7 as measured by the only broadband indicator that really counts: take-up. We may have, in the words of the government target, an ‘extensive and competitive’ broadband network. But that doesn’t matter a damn unless more people buy and use broadband and in turn use it to its fullest extent.

Throughout this report you will find descriptions of what we call everyday broadband users. iSociety has carried out a year-long ethnographic investigation

Introduction

Box 1: What is ethnography?

One of the pioneers of technological ethnography, Genevieve Bell of Intel Corporation, explains the methodology thus: 'It's based on the idea that you can best absorb a culture by being there and doing it. An old professor of mine called it "deep hanging-out." You've got to actually be there, hang out with people and participate in their daily activities.'¹

We used ethnography throughout our year-long investigation into everyday broadband habits. Ethnography is not new to the study of technology. Most major technology companies use ethnographic methods to understand better how people actually use the technologies that they produce and to grasp how technologies might be adopted in the future. As an anthropologist at Motorola explained in the *New York Times*: 'If we want to develop technologies that really fit into the way people live their day-to-day lives, then we have to understand how people really live.'²

iSociety's ethnographers took notes of observed behaviour. On the final day of the encounter the researcher conducted interviews to

discuss their interpretations and initial analysis of their informants' mobile lives, and to allow them to discuss these findings. To ensure that respondents were not sensitised to the ethnographer's specific interest in broadband, the encounter was framed as concerning everyday life and new technology. The accounts, two of which follow each chapter of this report, are designed to allow readers to appreciate some of the texture of daily life, and how technology fits in.

Ethnography does not attempt or claim to be representative. The 12 encounters detailed in this report are not intended to represent consumer demographics. All we did was pick people we thought were the type of consumer – everyday users, not technology-obsessive – who we need to persuade to take up broadband in greater numbers.

Research for this report happened in two parts. The first during autumn 2002 and then again during autumn 2003. On both occasions, we were preparing research for the annual UK Broadband Stakeholder group conference (see Broadband Stakeholder Group, p74).

(see Box 1) in partnership with the government's Broadband Stakeholder Group, examining these users. (This report should not, however, be taken as in any way the official view or policy of the BSG). The 12 ethnographic encounters presented in the following pages are snapshots from the front line. These are people who don't

work in new media, don't live in central London and don't really care that much about technology one way or the other. They judge it pragmatically – take it or leave it – and try to find ways to use it to improve their lives and those of their families. We have to persuade more people like this to take up broadband. They are the

future of broadband Britain.

So: imagine a Britain with 20 million broadband users. What about 40 million? It could be very different. It could be better. But the journey from here to there will be easier and faster if we get a grip on why faster internet access matters. This report helps to do just that.

Chapter 2

Broadband Britain – where are we at?

Broadband Britain had a rough start. Well behind comparable countries in international comparisons, the UK's road to broadband epitomised the confidence slump in the UK technology sector.

But today things are looking up. Britain has over two-and-half-million broadband subscribers – a number set to more than double by 2005, at which time the UK will have overtaken France as the second largest broadband market in Europe. This is because the supply side of the market – how to run, deliver, and price broadband – is working well.

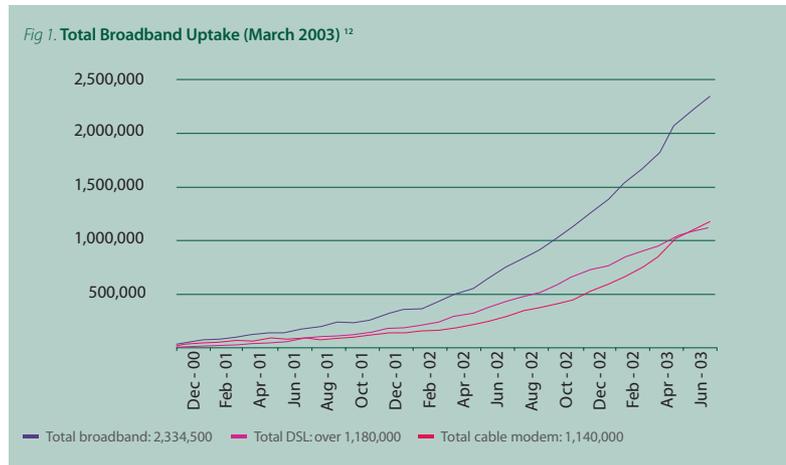
Unfortunately there is a problem on the demand side. Some areas of the country have 100% broadband availability, but take-up could be faster. Now the industry must turn its attention to this issue and work out how to accelerate take-up further. This report attempts to do just that.

Not second-waving, but drowning

In July 2000, BT launched its broadband ADSL service. Although not the first to offer such a service direct to people's homes, commentators heralded BT's entrance as the emergence of Broadband Britain. The *Guardian* noted: 'The industry was impressed by the scale of BT's plans, and analysts predicted the dawn of a new net era for Britain. Within a few weeks, thousands had declared their interest in a faster, or broadband, internet.'³ Ben Andradi, then chief operating officer (COO) of BTopenworld went further in modestly announcing that: 'The advent of broadband...is creating a second internet wave.'

This proved to be something a false start. Within six months, little had changed. Few had taken up the service and the government was becoming concerned. In February 2001, the Office of the e-convoy in the Cabinet Office published *UK online: The Broadband Future* and the prime minister announced a new target: 'For the UK to have the most extensive and competitive broadband market in the G7 by 2005.'⁵ The report announced the creation of the UK Broadband Stakeholder Group, an industry partnership between all those involved in the internet industry charged with helping the government meet its new target.

Broadband Britain – where are we at?



Despite this combined push the outlook remained bleak. In the autumn of 2001, research from the OECD had ranked the UK just behind the Czech Republic in 21st place in an international broadband benchmarking table of thirty countries.⁶ By September, only around 200,000 cable and DSL lines had been sold⁷, accounting for less than 1% of UK households.⁸ Broadband Britain was in danger not of second-waving, but of drowning.

More than anything the process epitomised the slump in confidence of an industry still coping with the fallout from the internet bubble. Narrowband internet services were launched in the mid-1990s flush with optimism. Broadband was

launched as debt-laden telcos struggled to survive, in turn barracking each other and the government. Consumers remained unmoved, and bought broadband slowly.

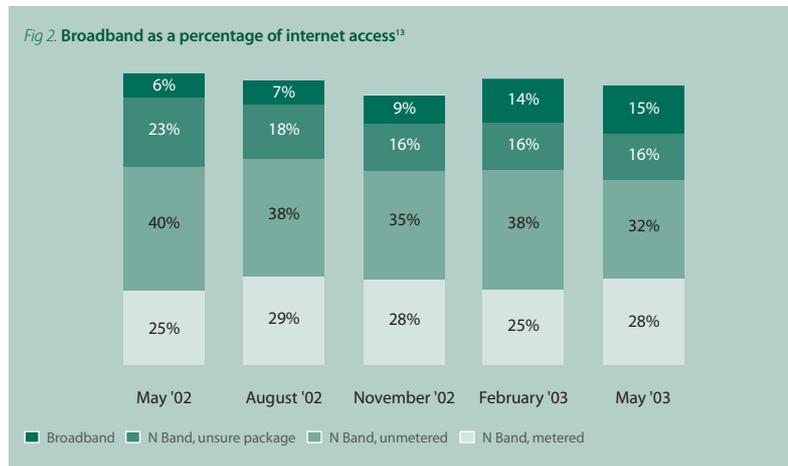
The state of Broadband Britain

Three years on, and things are looking up. Despite the teething trouble, the number of broadband subscriptions rose fast, up from around 300,000 subscribers in 2001 to over 1 million in November 2002, and over 2 million in summer 2003. Today, in autumn 2003, over two-and-half-million people have signed up (see Figure 1). BT predicts it will have five million by 2005.⁹ Fifteen percent of households with internet access are now on broadband

(see Figure 2). Building on this good news, Datamonitor suggests: 'The UK will overtake France to become the second largest broadband connected country by 2006.'¹⁰

Figures on the number of people who could have broadband have also improved. Broadband is available to around eight out of ten British homes, and latest BT figures suggest that their DSL product can be provided to 66% of homes and 68% of businesses.¹¹ Some areas of the country, particularly around London, now have close to 100% coverage. Although the geographic spread of broadband looks grim (see Figure 3), the population spread is much

Broadband Britain – where are we at?



more impressive. Most people in Britain, despite ongoing problems in rural areas, can now get broadband if they want it. Indeed, they could do so tomorrow.

This leaves a dilemma that forms the heart of this report. The story of Broadband Britain to date has been one of supply. The early years of broadband – described above and running from 1999–today – have been dominated by problems on the supply side of the market. Broadband cost too much. It was not available. The companies delivering it provided poor service.

Most of these problems have been largely solved. As we have seen, broadband is available to most people and

certainly available to the vast majority of those already online. Broadband is no longer too expensive and UK broadband is actually quite good value by international standards. And the operators have worked hard to improve their service.

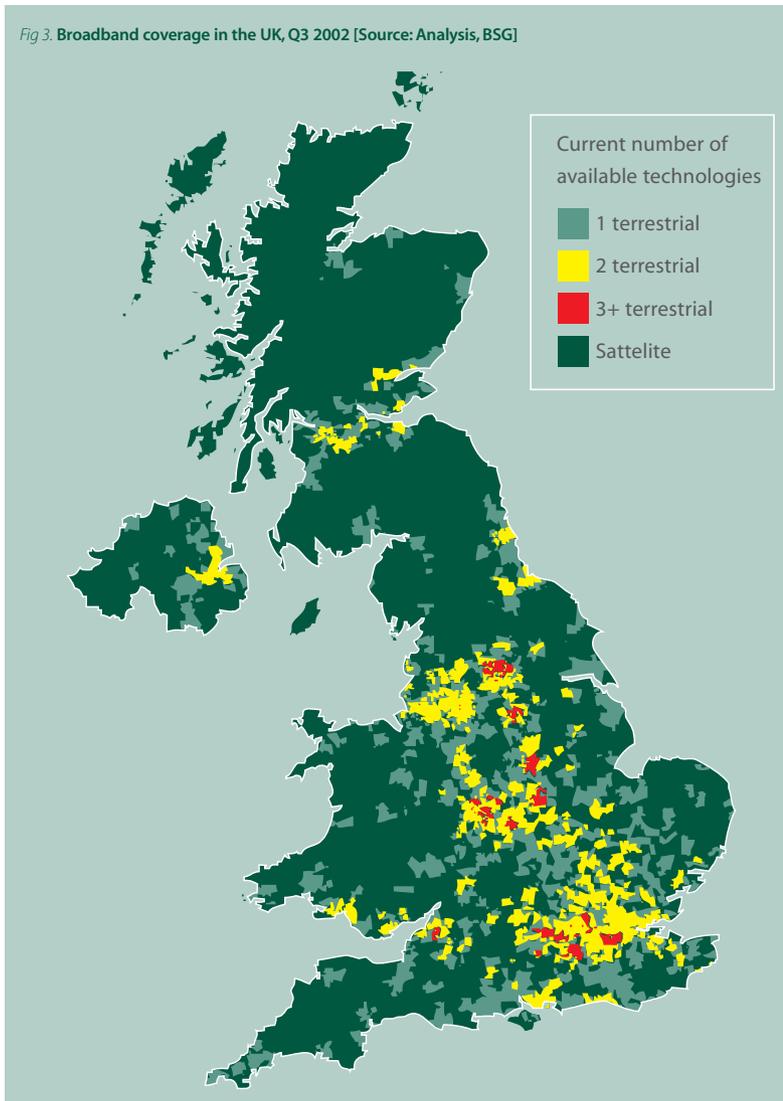
Today, supply is not the issue. Instead we need to look at the demand side of the market. Why might people want broadband? What can be done to make them want it more? Why are they not adopting it? And what do we need to do for them when they do?

These issues form the heart of this report. We start with adoption, and ask why it is that some people adopt broadband at all.

Today, supply is not the issue. Instead we need to look at the demand side of the market. Why might people want broadband? What can be done to make them want it more? Why are they not adopting it? And what do we need to do for them when they do?

Broadband Britain – where are we at?

Fig 3. Broadband coverage in the UK, Q3 2002 [Source: Analysis, BSG]



Case study: 1

The Spencers

The Spencers, Sidcup, Kent

Lifestage: Older Children

Two adults: father a science teacher, mother; charity organiser

Three children: two sons (22, 26) and a daughter (18)

Three PCs, on broadband for over 6 months

Broadband in brief

- Absorbed broadband:** The Spencers talk about broadband exactly the same colourful way they talk about everything else. It has become part of the furniture: the PC is always on and in the social parts of the house, meaning it is woven into the fabric of their lives.
- Speed:** This is important for father Mark because it allows him to waste little time when preparing for his classes. He is able to download images and then put them onto a PowerPoint presentation for his class.
- Easy adoption:** Since the move to broadband, BT has continued to provide the family's internet service as the family are happy with the connection. The installation has yet to cause the family any major problems.

Broadband in everyday life

The Spencer family live in a semi-detached, four-bedroom house in Sidcup, Kent. Mark (52) works as a science teacher at the local secondary school. Mary works at the local bank where she organises charity events for the local community. Jason, (22) works as a sales rep in an electrical store. Alice (18)

spends half the week with her fiancé and the other half at home. Alan (26) lives in his own flat. However, he is always in and out of the house.

Their home has a relaxed family feel with a neatly-kept dining room and a more relaxed and comfortable lounge where the family spend most of their time talking and watching TV. The typical weekday evening consists of Mark and Mary listening to music while they have a glass of wine. Later, Mark will spend a couple of hours on his PC preparing for his classes.

There is a wide-screen TV in the

Case Study: 1 – The Spencers

Alice is checking her balance on the net when there is an expletive from Jason: ‘!?!’, the phone has gone dead again...’*



lounge with a DVD player and Sky for the football. Mark calls the TV his ‘entertainment system’ or ‘the family get-away’. The PC, on the other hand, is his ‘information centre without the thrills and spills of the TV’. The house has three PCs but only one is connected to the internet. The main PC is placed in a small, narrow study at the front of the house. Two tables house the PC, printer and scanner. The family’s first was a ZX80: ‘with 1K and tapes that never worked. It was one jump up from bloody pingpong on the telly.’ The most recent PC in the house was mainly ‘built-up’ by Mark.

Both Mark and Mary have a good knowledge of the internet. All 80 teachers at Mark’s school are given a laptop and are being trained in internet use. Mary has also had training at work in different programmes for PC use. She has a good basic understanding of Office and Photoshop, and has little trouble in downloading or scanning images onto the PC.

The internet and broadband have become a central feature in the Spencer household. Access is always available because the computer is always on during the day. It becomes a multi-purpose piece of household technology that allows for quick referencing to detailed research and serves leisure activities like gaming.

‘Since we have had broadband we have been able to trace out family tree... We

have always been interested in it but before we had broadband it took so bloody long for the search to happen... You know what, I found the other night that there is a hotel in Houston that is named after us.’ Alice

Maybe the most family-orientated activity with the internet since broadband is that the whole family do their banking on the net. Mary has found that she is able to download images while ‘getting the cooking on’ or she is able to check her emails, while listening to a radio show through the internet and talking to her friends on the phone. On a more mundane level Jason describes why multi-tasking benefits his evening routine:

‘Sometimes I like to check the Auto Trader site because I am well into my cars and I can quickly compare prices of cars and spare parts, but the other day I found myself quickly going upstairs to check on a MiniDisc that I was recording in my room, downstairs to quickly check on the TV for the Arsenal score, then upstairs again, then back to the Auto Trader site and then check on my Sky Dream team on their site... And life goes on.’

At one point during our visit, Jason is on the telephone sitting on the stairs in the hall way talking to his girlfriend while Mary and Mark are having a glass of wine in the kitchen talking about their day’s work. Alice is checking her balance on the net when there is an expletive from

Jason: ‘*!?!’, the phone has gone dead again... I wish her mum would stop doing this. Every time I ring her up her mother goes upstairs to their computer and logs on, which then cuts off the bloody phone line... Now I have to wait for her to log off.’ This is something that the Spencer family no longer has to endure.

The family use Norton Viruscheck, which Mark felt was the best option for them following advice from his school. However, it is not the threat of viruses that concerns Mark and his family. Rather, Mark feels that there is a deeper system of surveillance through broadband that will allow the government and the secret agencies to monitor an individual’s movements.

‘If you think that the normal phone line has five wires and broadband uses the fifth line, then think about it. What was the fifth line being used for before broadband used it? We have half a megabyte broadband connection coming down our phone line. That’s 30-year-old technology in the 21st century. What’s going on? In 1940-something Orwell wrote 1984. Well, how true is that?’

Overall, the Spencer family provide a snapshot of a broadband family. They use broadband, they enjoy it, they talk about it, and they use it in ways that make sense to them.

Case study: 2

PND Recruitment

PND Recruitment, Leeds. Small business

Five staff: four partners, one researcher BT Broadband through business deal

Broadband in brief

- **Keeping up with the Joneses:** The company sees broadband as part and parcel of being young and successful. It symbolises their success.
- **Broadband pain:** The company needed to make more than 100 calls to make their broadband work and rely on each other to help make their systems work.
- **Reliance:** The employees need broadband and tend to only notice it when it isn't there. Their connections are not as important as what they do with them.

Broadband in everyday life

PND Recruitment are a start-up company working out of a third-floor open-plan office in a Leeds business park. Four equal partners and a researcher work in

an informal but dedicated atmosphere, characterised by long hours and plenty of banter. The team rarely goes out to lunch, usually just ordering or bringing something to eat in the office. They keep beer in the fridge for visitors and for working late; the fridge is in the interview room above the network hub and server. Launched in June 2002, PND's office atmosphere is still saturated with excited responses to new business calls or successful pitches. More than once members of the team vociferously called out 'lovin' it, lovin' it, lovin' it' after new business success. There is a real buzz to the place.

PND had broadband from day one but the process was far from seamless. For the first six weeks their domain name and email failed to materialise. One

hundred calls to over 20 numbers were needed to get the problem sorted. The company knew they were broadband beginners but were surprised to find that their suppliers were too.

All PND staff came from a company that did not use PCs for this kind of work, but the partners thought that broadband was an obvious choice. In fact there is palpable sense of a status attached to being 'in' on the ICT revolution. They judge others by this standard, with one saying: 'If they don't have email, we tend to frown on them.' Because they think broadband means business, two of the staff complain that their ADSL is not compatible with HSBC or NatWest internet banking payroll payments. 'If a start up like us knows it's essential,' notes one, 'how can giant banks not be on board with it?'

'Frank put the network in (even though that wasn't really his speciality), someone else came and improved on it, and now Simon the IT guy looks after things.'

Case Study: 2 – PND Recruitment



Despite their broadband identity, the company is neither technical nor technically knowledgeable. The network has gone through a few problems of late and a temporary cabling arrangement was in place during our visit. There had been quite a few crashes and general sluggishness on three of the five PCs in the office.



They all mention how reliant they have become on PCs for their day-to-day work. But all employees mix this with more traditional office tools. Post-it notes, a large board with current jobs, a flip-chart and the paper office diary all form vital parts of the office information architecture. Older and new work together, and the flow of information around the office leaves both 'soft' and 'hard' traces in the office environment. Emails precipitate phone calls, and vice versa, while shouting across the office seems to be the best way to exchange information. From questions about data entry to general comments – 'this fax is shit!' – all are broadcast to the whole office in order to quickly share important information quickly and unambiguously both about the work itself and also the tools of the office. This social bonding also encompasses more playful uses of the office tools.

Katty, the researcher, uses the internet most of all. This is primarily to search out companies and sector details to add to the PND database, and also to confirm applicants' employment histories. They search for names, businesses, addresses, locations and sometimes terminology in the wide range of employment sectors that they cover. Websites used most often: Google, Altavista, Recruitmate and D&B. After these come a myriad of engineering and technical websites, which form the bulk of the favourites on most people's PCs. This is a start up and casual surfing is not a marked activity in the office.

Katty says: 'When I have lots of windows open, you can feel it slowing down... it crashes. So I just close Explorer and open it again.'

The matter-of-fact tone is revealing: just closing and starting again when your web browser crashes with broadband's 'speedy, always on' access makes the internet (Explorer) just another MS Office tool, as pliant as Word, or Excel. But the problems of slowness and crashing seem not to be any less frequent, it's just that broadband makes them much easier to cope with.

More broadly, it seems, IT problems are accepted as part of the modern technologically-enabled office:

Katty's email has not been receiving anything for two days. She calls Simon, the IT guy, who helps them out with such issues. Over the phone he takes her through a process of setting up a new password on her terminal, having sent her first to Katty's terminal to check something. The call lasts ten minutes, by the end of which Katty has received her mail. Katty is very glad that they do not have to pay for such IT support calls.

Interestingly, while most of the above elements are blamed, from time to time, only the software is not mentioned by the PND team as being a possible cause of the PC problems (PND were running Windows XP Pro). PND even blame themselves in that they have had so many suppliers: 'Frank put the network in (even though that wasn't really his speciality), someone else came and improved on it, and now Simon the IT guy looks after things.'

Overall, PND are a model of the type of new, young company who realise they need broadband to make themselves successful.

Chapter 3

Adoption – getting broadband

So, you think you might want to buy broadband? What's stopping you?

UK adoption rates have increased in the last couple of years although from a low base. Now the market stands at a critical juncture, ready to reach a new type of consumer, the everyday user. But to accomplish this, those selling broadband must understand consumers' concerns. In particular, two issues stand out. First, broadband adoption does not happen by magic. It is preceded by a number of technological and social developments, or the 'broadband escalator'. Second, a fresh look needs to be taken at the way in which consumers assess the benefits and risks of upgrading. We suggest a new concept, broadband microbarriers, that will help persuade cautious consumers to adopt.

Crossing the Broadband Chasm

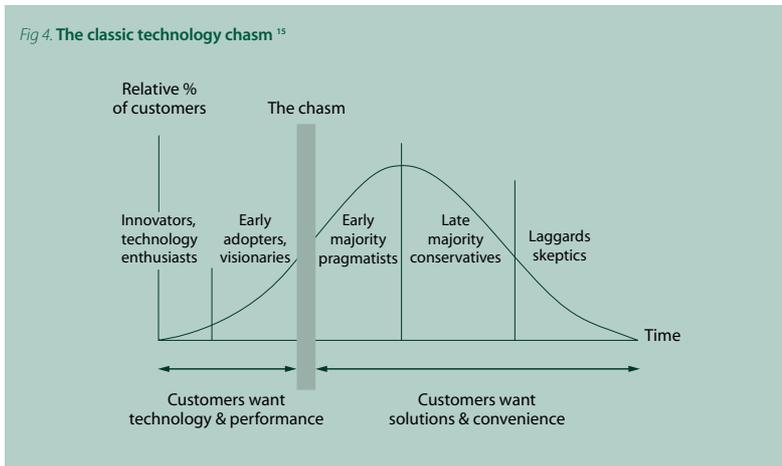
We undertook this research because the UK is entering a critical second phase in its broadband development. To understand why this is, we turn to a classic text of the marketing profession.

In *Crossing the Chasm*, Geoffrey A Moore suggests that there is a fundamental difference between early users of a technology and those who pick it up later on. While the product does not change, the things these different groups of people look for in it, do. In the preface to his book Moore explains:

*'The point of greatest peril in the development of a high-tech market lies in making the transition from an early market dominated by a few visionary customers to a mainstream market dominated by a large block of customers who are predominantly pragmatists in orientation. The gap between these two markets, heretofore ignored, is in fact so significant as to warrant being called a chasm, and crossing this chasm must be the primary focus of any long-term high-tech marketing plan. A successful crossing is how high-tech fortunes are made; failure in the attempt is how they are lost.'*¹⁴

Figure 4 illustrates this point in what is now a familiar representation of the new technology lifecycle. Following its introduction, any product must address the market in different sectors. These run from very early innovators who like technology for its own sake, right through to laggards who purchase technology when it is embedded (or hidden) in something else. Moore's insight is that, although all stages in this cycle can be difficult, the most problematic is the jump from early adopters to what he calls the 'early majority'. He christened this the 'chasm' to be crossed before a technology becomes successful. Like any technology, broadband must cross the chasm from visionaries and early adopters to reach the type of everyday users who feature throughout this report.

Adoption – getting broadband



In the UK, broadband is now at the point where it must to appeal to the ‘Early majority pragmatists’ in Figure 4. Their demands are similar to those of the Quiet Pragmatist users identified in iSociety publication *Reality/IT*. They prefer technologies that are tested, recommended, and proven. To understand these demands better, iSociety spent a year with pragmatic users in order to find out how they used broadband in everyday environments.

Why everyday life? Because average users and commonplace usage matter a great deal in attempts to understand the impact consumer technology. Any picture of the impact of technology on the

individual, household, community or broader society is incomplete without an understanding of the everyday situations in which that technology is used. More importantly, society as a whole will not change fundamentally around any given technology until it is adopted widely. Early users of technology matter, but visions of a network society are predicated on taking everyday users along for the ride.

Understanding adoption

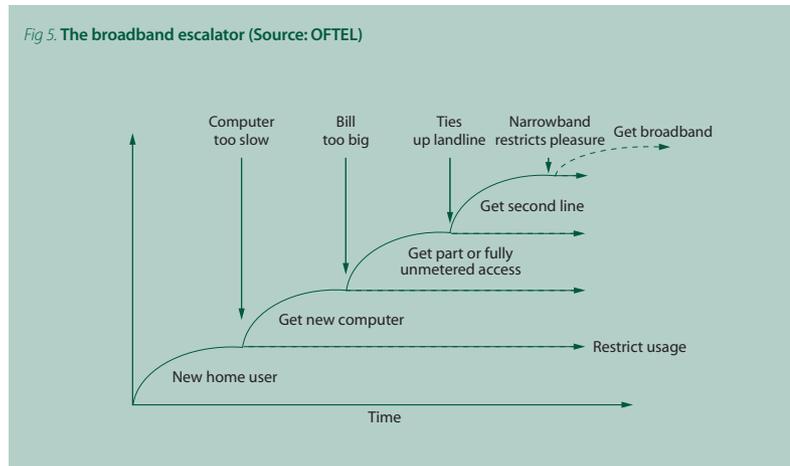
In 2002, the UK Telecoms regulator OFTEL released a qualitative study looking at consumer perceptions of broadband services. Through a series of focus groups and interviews the authors attempted to understand what broadband and non-

broadband users thought of the product. The results revealed an intriguing difference between users and non-users.

Having been allowed to try a faster connection the study reported that: ‘Users agreed that it was perceptibly faster. Many believed this would make surfing online more pleasurable and less frustrating.’ Equally, broadband users: ‘considered the ‘always-on’ aspect advantageous, because it removed time waiting to dial-up, which they believed enabled them to dip in and out of the Internet more readily.’¹⁷

OFTEL’s research also revealed a divide between current users and non-users. Existing broadband users noticed a big

Adoption – getting broadband



difference in speed and thought having an always-on connection might be useful. But many narrowband users did not. As the research notes: 'narrowband users thought such speed was surplus to their current needs and, therefore, not worth any additional expense', while 'lighter [narrowband] users often struggled to comprehend the added-value of always on services.'¹⁸ The report goes on to note that always-on, seen by many experts as the most behaviourally significant part of the broadband proposition, 'rarely drives decision-making' about upgrading (See Chapter 4). Users have to experience broadband to understand the benefits.

The OFTEL research also paints a much more complicated picture of broadband adoption than might otherwise be assumed. It suggests that, rather than a potential consumer suddenly having a blinding flash of inspiration, many steps lead to the eventual decision to buy. In each case OFTEL discovered complicated layers of previous action which combined either in a decision to buy or in a decision to postpone. As Figure 5 suggests any number of technological factors – from larger phone bills, to upgraded narrowband, to upgraded computers – are necessary preconditions for the move to broadband. Equally, although the research does not go into this, one can assume that

any number of social factors can be equally important. A change of job, a child entering school or a close friend's recommendation all might provide the final push needed to upgrade. These are all reasons which featured in our research. **Microbarriers matter**
How do we get to the bottom of this step-by-step process? Adoption rates remain a sensible way of looking at broadband, but the way we understand how and why people decide to buy broadband, and how they buy technology more generally, needs a rethink. To cross the broadband chasm we need to look more closely at the concerns of those thinking about

Adoption – getting broadband

Given that broadband is not a 'try before you buy product', how do you know if you will actually use it?

upgrading. Our research has identified a new concept, microbarriers, that should be placed at the heart of our understanding of the technology consumer.

Traditionally, analysts have understood the adoption process with reference to what we call 'macrobarriers'. An individual or family can choose not to adopt a technology because a large barrier exists. In the broadband market, early attempts to get more people to upgrade concentrated, almost entirely, on removing four such macrobarriers.

1. **availability:** broadband was not available in many areas.
2. **understanding:** people didn't know what broadband was all about.
3. **cost:** broadband was expensive.
4. **customer service:** broadband providers had a reputation for providing poor service, both before and after you bought it.

As discussed in the previous chapter, these barriers have been largely overcome. Broadband is available to around seven in ten British people, with some areas achieving near-universal coverage. The average consumer awareness of what broadband is, especially among existing internet users, has gone up significantly after large national advertising campaigns. Forthcoming NOP research suggests that 98% of internet users are now aware of

broadband.¹⁹ Following significant price cuts in 2000 the product is pretty good value, providing a much better service at only about £10 per month more. Finally, the big broadband providers have improved their customer service, as suggested by satisfaction levels among users.²⁰

With these four macrobarriers at least partially removed, broadband use should have shot up. And indeed it has, climbing steadily throughout the last year from a low base. But, given the size of the addressable market – the number of users who could get broadband if they wanted to – we believe the rise could be faster.

During our research we found plenty of examples of people who adopted with these macrobarriers in mind. Reducing cost, increasing the speed of an internet connection and freeing up a phone line were all compelling reasons to upgrade. But they are not always sufficient. During early 2001, iSociety conducted a number of interviews with people we suspected were potential adopters of broadband, but who had not done so. During these interviews we were consistently surprised at the number of times much smaller reasons were mentioned. Instead of identifying a single large reason for not adopting, those we spoke too tended to have a list of lots of smaller seemingly less significant reasons. Through this we have identified a range of possible

microbarriers that create perceived switching costs and result in consumer inertia. Some are more obviously more important than others, while some apply only in very specific situations (see Box 2).

Most of the situations described in Box 2 are entirely understandable. Given that broadband is not a 'try before you buy product', how do you know if you will actually use it? If you are a normal internet user with regular surfing patterns, how do you know you will make the most out of what the product has to offer? If you are not a computer expert, then how can you be sure that installing broadband will not mess up your current fragile computer set-up? All of these create risks in the mind of even more confident consumers.

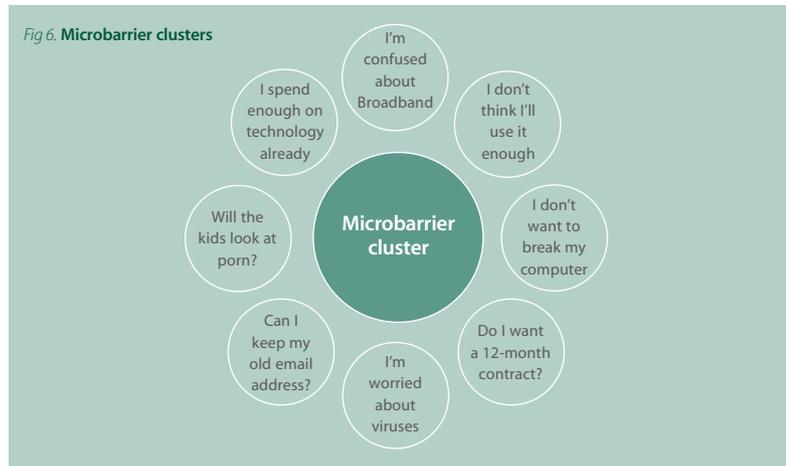
As a previous iSociety report outlined, the natural result is 'status-quo bias'. This is a phenomenon noted by behavioural economists in which human beings will tend to stick with the status quo if they are neither compelled to change, nor properly able to quantify the risks associated with actions. Used most frequently in the analysis of financial services products, it suggests that inaction is an entirely comprehensible re-action to (a) being relatively happy with what you already have and (b) being unable to assess sensibly the risks and benefits of change. In other words, not sure what to do? Best to do nothing.

Adoption – getting broadband

Box 2: Examples of microbarriers ²¹

- i. Contentment and familiarity with current narrowband service
- ii. Existing narrowband supplier relationships, contractual relationships, or brand loyalty
- iii. Gradual acclimatisation to the ‘world-wide wait’ as normal
- iv. Not wanting to be tied into a 12-month contract
- v. Concerns that that services provided by current ISP might not work on broadband. Most notably, home email addresses provided and named after an ISP might be thought to be non-transferable
- vi. Lack of family pressure to upgrade
- vii. Little ‘viral’ discussion among friends who might be broadband users and the benefits of upgrading
- viii. Digital exhaustion, or the perception that the last few years have seen enough new adoption of expensive technologies
- ix. Existing high spending on a ‘digital portfolio’ of products (personal mobile phones, children’s mobile phones, digital TV, narrowband access, PCs, PDAs) putting pressure on a family budget
- x. The lack of ‘branded and obvious broadband content’ that would make sense in the life of the user
- xi. Low use patterns (ie typical use patterns) not immediately demanding higher speed connections
- xii. Use of high-speed connection at work being sufficient for most internet needs
- xiii. Reputation of broadband providers for having bad customer service
- xiv. Reputation of certain broadband providers as about to go out of business
- xv. Once bitten, twice shy: bad experiences of changing providers during narrowband (ie bankrupt ISPs or free/0845 ISPs which provided very bad service)
- xvi. Poor perception of dominant ‘monopoly’ providers based on press comment or narrowband experience
- xvii. Association of cable providers only with telephony and television services
- xviii. Perception of broadband as an expensive business (or non-domestic) technology, perhaps located in early awareness of ISDN lines
- xix. Lack of understanding of how higher bandwidth could benefit their particular situation or use patterns (i.e. working at home)
- xx. Lack of understanding of tricky terms and acronyms associated with broadband
- xxi. Thinking that broadband needs a certain level of technological sophistication to operate or install
- xxii. Basic lack of information about what broadband means and what it can do.
- xxiii. Living in rented, shared housing arrangements and being unable to persuade flatmates to upgrade to a broadband connection that could be shared over a home network
- xxiv. Parental concerns about children accessing streaming or downloadable pornographic videos with greater ease than on narrowband
- xxv. Concerns about other problems associated with always-on connection, such as viruses
- xxvi. Concern that any new technology might upset a delicate home computing ecosystem by making other technology stop working

Adoption – getting broadband



It is in these situations that microbarriers come into play. Given the quick increase in broadband uptake, it is reasonable to assume that many of those who really wanted to upgrade to broadband have done so already. What remains is the next section of the market: those who would upgrade if they could (a) gain a fuller understanding of what the benefits might be to them and their family and (b) be reassured about the risks. For broadband suppliers then, the task is to first understand the microbarriers this group of consumers face, and then find ways to allay their fears.

Yet part of misunderstanding cautious consumers flows from the way we think

about people and their views. Those who work in the broadband industry tend to see their product as inherently good. On the other hand, most consumers will weigh up the benefits (it's fast, it gives me free music) with the risks (it costs more, my children might look at pornography). As we stress throughout this report, the people we spent time with did not see broadband as the be-all and end-all of their lives. For instance, compared with mobile phones, broadband is rarely discussed in emotional terms. The product itself inspires little enthusiasm; it is what any user does with it that counts.

The broadband industry, in occasionally assuming that their consumers think about technology in the same way as they

do, may be guilty of what psychologists in the late 70s labelled 'false consensus bias'. In the most famous study, researchers asked college students whether they would wander around their college wearing a sign round their neck, and then asked them if they thought others would do the same. Those who said they would wear the sign thought others would; those who wouldn't didn't think others would.²³ Human understanding of others' actions come from a limited sample; mostly a sample of one (yourself). This leads to a 'mechanism by which people tend to enhance their self-images by overestimating the degree to which others agree with their opinions'²⁴ (eg everybody wants broadband) or practice

Adoption – getting broadband

Given the quick increase in broadband uptake, it is reasonable to assume that many of those who really wanted to upgrade to broadband have done so already. What remains is the next section of the market: those who would upgrade if they could (a) gain a fuller understanding of what the benefits might be to them and their family and (b) be reassured about the risks.

their undesirable behaviours (eg most people cheat on their income taxes).

Our research suggests this assumption – people care about broadband internet – is questionable. Contrast TV with the web; our research suggests a multi-channel TV package is regarded almost as an essential by families, whereas broadband is more likely to be regarded as an indulgence. In part, this is because home entertainment is not seen as something provided by the internet and home entertainment is an all important domestic concern. It is important to remember that the internet is rarely regarded as utterly essential and in this context broadband can seem like an extravagant extra.

Our contention is that traditional market research does not allow the broadband industry to understand properly the caution and reticence of its consumers, and in so doing leads to an inability to properly unpick the clustered microbarriers that suppress adoption. In turn, this lack of understanding leads to some less than successful attempts to address this caution through advertising.

BT's now infamous 'Broadband Britain' advertising campaign in which various monsters escaped from man-hole covers and a car was crushed by a computer-generated rhino may well have raised awareness, but it is unlikely to have educated consumers much about how

they could integrate broadband into their everyday lives. Equally, marketing campaigns that concentrate on speed, the dominant marketing message, do little to allay real fears or explain exactly why all of this speed is useful.

The critical point about microbarriers is that, at the household level, they will combine in complicated ways (see Figure 6). The high number of such microbarriers and the differing way in which they will affect perceptions of the marginal utility to be gained from broadband calls for commercial marketing to be extremely well targeted. Only by truly addressing the concerns and aspirations of users will we be able to drive adoption to higher levels.

Case study: 4

The Lockes

The Lockes, Altrincham

Life stage: Older children

Father, insurance agent; mother, playground supervisor.

Four children: three sons (10, 21 and 22) and one daughter (18)

Dial-up internet access since 2000 – broadband since September 2002 through BT broadband

Broadband in brief

- **Unsupported broadband** Steve and Sue have security concerns that prevent them from using the internet for shopping and banking and are also concerned about the social consequences. They need support to help them along the way.
- **Lack of obvious functionality** Broadband is little used by Steve and Sue, as it holds no obvious benefit for them, made worse by the fact that they are reluctant to shop and bank online.
- **Downloading films and music** Their son justifies the cost of broadband on the grounds that downloading films and music saves him money – otherwise, the costs would outweigh the benefits.

Broadband in everyday life

The Locke family live in a terraced house, close to the centre of Altrincham, a large market town on the outskirts of Manchester. Steve and Sue have been together for fifteen years but ‘never got round to getting married’. Steve is an insurance agent in his early 40s, and largely works from home. Sue (43) works as a playground supervisor at the local school. Sue’s eldest son, Luke (22), recently left home but still lives close by and regularly comes round. James (21) works for Carphone Warehouse but has been off work for the past ten months due to a serious car crash. Sarah (18) is training to be a hairdresser. Callum (10) is at school, and has cerebral palsy and autism.

The house is very tidy. Family activity seems to centre around the living room and dining room, which are connected by an archway. It is a ‘technology rich’ household, with three computers, four mobile telephones, four cordless telephones, a combined telephone and fax machine, a couple of televisions, DVD players and stereos. They subscribe to Sky.

They have one computer in the dining room, on a desk that also houses the scanner and the printer and is completely lacking any kind of clutter. This computer is not connected to the internet: they say they will at some point but have not got round to it yet. Steve uses this computer for manipulating photos, his hobby. It is switched off most of the time and plastic protective covers

Case Study: 4 – The Lockes

are placed over the computer and printer.

Sue rarely uses the computer; she plays solitaire and she has a couple of friends that she emails, one of whom is abroad quite often. Sue says she has not had time to learn and is scared of breaking the computer in some way. It also seems that there is little time in which Sue could use the computer – although Steve and Sue both work, it seems that Sue is responsible for the majority of the childcare, housework and cooking, leaving little spare time. As Sue says, when you have four children, life is made up of a series of ‘blips’ that have to be dealt with. She says she also finds computers very antisocial: ‘If Steve’s watching TV, I can still cuddle up to him’, whereas she felt she could not do that if he was on the computer.

There are two computers in James’s bedroom, one not in use, which is kept in a cupboard. The computer that is used is placed on a desk in the corner of the room, by the window, surrounded by CDs and DVDs. James uses his computer largely for the internet. He played games on the computer when he was younger but not any more. He also has a digital camera, but has not used it much so far. His brother Callum uses the computers for his homework.

It was James who persuaded the family to get broadband. Speed was the

main motivation behind the switch. They got broadband installed ‘on the side’ – installed by a friend who works for BT so that they did not pay for the installation. Still, they talked of the cost and the hassle, all the ‘gizmos’ they had to get.

For most of the family, internet use tends not to be regular but more ‘event driven’, looking up information, for example, for Callum’s homework. Sue looked up information when they first found out that Callum had autism because they could not find a suitable book. When they had carpet beetles, she also looked up information on that. She places emphasis on the fact that she could get the information quickly.

Steve and Sue both have concerns about security. They will not bank on the internet for fear of people getting hold of their bank details. They are reluctant to shop on the internet for the same reasons but will when it is necessary. Another barrier to shopping online is a feeling of not knowing what you are getting – although there may be a photo, Steve and Sue felt that they would want to see the physical object. This is particularly true of food shopping.

Steve and Sue also worry that the internet, and computers and technology in general, are antisocial and that people can become too dependent on them. They both say that they like to talk to

people and miss that in shopping or banking online. They also worry about what Callum will find online.

James mainly uses the internet to download films and music. The money he saves justifies the expense of broadband. Normally he starts downloading and leaves the computer – thus, although he may spend several hours a day downloading films and music, it is probably only around 15 minutes a day that he spends actually sat at the computer. James has found lots of viruses and SpyWare since getting broadband, so he now uses Norton virus checker.

James does not use email much. He prefers to use MSN Messenger because it is quicker. He has been in chatrooms before but now will not on the basis that they are full of people who are not who they say they are. On one occasion, he and a friend talked to two girls in a chatroom and the girls sent ‘their’ photos, but when they met up, it became apparent that the photos were not their photos – on seeing the girls, James and his friend walked away.

For the Locke household, broadband, and the internet generally, has yet to revolutionise their lives. Its main use at the moment is as a tool for downloading films and music, a task that would be too slow without it.

Steve and Sue also worry that the internet, and computers and technology in general, are antisocial and that people can become too dependent on them.



Case study: 5

Anthony Rosenberg

Anthony Rosenberg, self-employed, north London

Life stage: Older Children

Father, self-employed working from home; mother, part-time medical secretary.

3 children: 2 sons (17 and 16), daughter (14)

Internet connection since 1989 – BT broadband, for 18 months

Broadband brief

- **Show me the money** For the self-employed, cost and convenience are the best reasons for getting broadband. Broadband hasn't changed what Anthony does, but it does help him do it a little better.
- **Multitasking** Anthony's net and email use is business like, focused on specific tasks and 'getting things done'. Broadband increases the ability to multi-task, doing more with time. Anthony often checks email while on the phone or uses the net to answer specific queries.
- **Connection intrusion** Broadband makes the internet and email more intrusive. Dealing with the distraction of constantly arriving email and

worries about viruses and spam can be off-putting for the new user. Anthony had to learn to close-off his connection to concentrate on the task in hand.

- **Father and son** Anthony's son Josh appreciates broadband more than his dad because he uses streaming media and instant messaging.

Broadband in everyday life

Anthony works from home in New Barnet. His wife works as a medical secretary, and they have three children in their teens. He is a writer and journalist, but makes money by getting grants for businesses and charities and by negotiating reductions in company utility bills. The local synagogue links his personal and professional life, providing

lots of contacts and friends. He seems to be something of a community impresario.

He has worked for himself for 15 years. Notionally a sole trader, he relies on a network of local women performing support services. They include a PA who visits the office weekly, a typist, an internet researcher working on a dial-up connection from her home, and two form-fillers who complete grant applications.

The family kitchen gives on to Anthony's office space, which is untidy in a regimented way with stacks of paper surrounding his desk. The trained eyes of Anthony and his PA know roughly where things are, most of the time. He has two phones – one incoming, one outgoing – and a mobile phone. Although a relatively heavy email user Anthony is certain that his

Case Study: 5 – Anthony Rosenberg

phones are the one piece of technology he could not do without. He judges how busy his days are by the volume of calls.

He has had the same email address since 1989 and would not move to another. He receives 40–60 messages daily, of which half are ‘junk’, a quarter ‘of interest’ and another quarter ‘worth looking at’. He collects his email throughout the day, often while on the phone to clients or contacts and periodically pushing the Send/Receive button. Overall, his internet use is highly task-specific and made up of ad hoc processes essential for work. The Internet Explorer window is not always open or even maximised, unlike Outlook Express which is an ever present feature of his working routine and style.

Anthony tries to minimise his reliance on technology. His trust in it has its limits and he doesn’t want to develop a total dependency. He keeps print-outs of phone numbers and invoices, and is careful to back-up files and bookmarks once a month. Although his PC is a source of ‘constant issues’, it is rarely enough to stop him working. He is self-taught, which he thinks is part of the problem.

Having been on the net for over a decade – he is quite proud that he was quick to see the potential of the web – he decided to move to broadband 18 months ago. Such was his lack of knowledge about broadband when signing up that he had assumed that BT had a monopoly.

His reasons for making the broadband move? Cost and convenience. On dial-up he was constantly having to connect to the internet to see if new mail had arrived. Now, as he explained to another home worker who had come in to check over some grant application forms: ‘I’m on ADSL and I’m on 24-hours-a-day if I want to be.’ In reality he switches off the machine at night to save electricity, though his children have usually booted it up to check their Hotmail by the time he has returned from the synagogue in the morning.

In terms of the impact of broadband, he uses the words ‘significant’ and ‘intrusive’ to describe what it has done for him and his business. Broadband means more viruses, more spam, greater likelihood of things ‘intruding’. The significant benefit is not having to dial up for his email each time. Speed doesn’t really figure in his evaluation: in fact he is not over-impressed with the speed of his BT broadband, commenting that it is ‘not as fast it should be’.

Broadband has made him more reliant on email, meaning he gets more, primarily because he deals with what comes in more quickly, which in itself precipitates more email. This makes his business more responsive in his opinion, but can have a tendency to distract. Email arriving throughout the day is also ‘intrusive’, and he initially found it quite difficult to deal with a steady flow of new mail.

Speed is a bigger benefit for Josh,

Anthony’s 16-year-old son. He often uses an internet radio station while he chats with friends on MSN Messenger: ‘I collect people,’ he notes, showing off his impressive buddy list. He recognises that net radio wouldn’t work well on dial-up. Although instant messaging (IM) was possible – most of his friends are dialling up to chat – he likes the fact that it’s always there in the background.

Given Josh’s more active use of the internet, pulling content down and maintaining real-time conversation, it is not surprising that Josh’s perception of broadband differs from his father’s. He feels more able to wander off and come back to the task. Similarly, broadband offers him, he suggests, a cure from the ‘drug-like’ dependency on time that dial-up engendered where the addict had to constantly look to see how long they had been online: ‘It removes the phobia of being online too much – you can relax a bit.’ Ultimately, for the nonchalant teenager broadband is good is because it is invisible, even if your friends remind you what you’ve got:

‘For those who know about it, it seems something big, but if you’re not too savvy – well who cares? You aren’t really aware of it but your friends say you’re lucky.’

Overall, Anthony is a good example of a functional broadband user. He is exploring possibilities and learning to cope with difficulties. But it is his son who gets the most out of it.



Chapter 4

Adaptation (1) – overcoming difficulties

So, you bought broadband. Your internet access is faster and you don't have to dial up. Now what?

It would be entirely possible to adopt broadband and not change your surfing habits one bit. The only change would be spending less time online because it would be quicker to do the things you already do. Yet the evidence suggests this is not what happens. Broadband users do more with their connection and spend longer online. Looking at adoption is not helpful here. Instead we need to understand adaptation: or, how normal people react and 'adapt' to the possibilities of broadband. This dynamic process, first of overcoming problems, second of exploring possibilities, is the key to understanding how to help people make the most of broadband. In order to achieve that, users often have to get over the broadband downturn, or

what happens when things don't go entirely to plan.

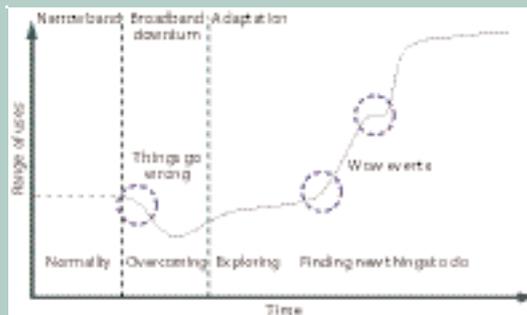
Clearly, broadband doesn't matter at all if it has no impact on behaviour. Indeed, the premise of the broadband industry is the fact that broadband behaviour is different behaviour. Broadband is meant to 'enable' all manner of things: increased e-commerce; new consumption of content; exciting new communication applications; and the delivery of public services online. But it is equally clear that not all broadband consumers are heavy users of the internet. Given the assumption that broadband behaviour is different behaviour, it remains startling how little consideration is given to these differences.

A recent study by comScore Media

Metrix does show that: 'Broadband users in the US are responsible for 49 percent of total web pages viewed online, even though the group represents only 32 percent of total Internet users.' But, we also know that a very small minority of broadband users show astonishingly high levels of use, while the rest (although using the internet more than narrowband) do not. Technology commentator Azheem Azhar reported in 2001 that a 'large European broadband ISP found that 5% of users were responsible for 85% of the network usage'. This pattern of a minority of users using most of the service contributed to NTL's announcement, in spring 2003, that it may introduce fines for particularly heavy users.

Adaptation (1) – overcoming difficulties

Figure 7: From adoption to adaptation



A 2001 study conducted by management consultancy McKinsey and online research business Jupiter Media Metrix, looked at the user habits of a set of American consumers before and after they switched to broadband. The study sought to identify the characteristics of later adopters, in particular those who didn't fit the young-and-wired archetype of early technology enthusiasts.

The research suggests that, as broadband penetration increases, so the variety of 'broadband consumers' increases. In effect, as broadband goes mainstream, so the mainstream of internet users come to broadband, and they bring their habits and attitudes with them. Thus, those whom the study characterises as heavy users – 'Chatterers'

or 'Gamers and Gamblers' – have totally different internet experiences from light users – 'Emailers' and 'News Seekers'. The range of applications used by different groups – remembering the classic adoption curve in the previous chapter – varies considerably. Thus, although all broadband users are equally 'enabled', some are more equal than others.

Yet the McKinsey study did find that broadband users spent more time online, both compared to narrowband users in general and compared to their own previous use. As the report suggested: 'Consumers adopt broadband connections to get a faster, more intense experience. Once they have set up their broadband connection, they spend 27 percent more time on-line overall,

average 37 percent more sessions a month, and view 17 percent more pages a month.' The move to broadband had brought longer hours in front of a computer, more frequent pit stops online and more types of website visited.

The study also found that the amount of time users spent surfing the web actually decreased, even if the number of pages viewed increased. Because internet usage became more efficient, partly due to the speed at which pages could be accessed, users did their surfing more quickly. Instead of using this extra time to do more surfing, they moved their time to 'community communication applications' such as instant messenger, email, P2P, and so forth. The proportion of time taken by such activities moved

Adaptation (1) – overcoming difficulties

from 26% to just over 40%. A faster and always-on connection helps to make these activities more attractive than surfing the web, so users spend more time making use of them.

However, the study also suggests that measuring broadband internet use is more complicated than measuring narrowband use. Broadband, by virtue of being a permanent connection, enables applications to connect to the internet ‘in the background’, either by being connected to other people while users are doing other things (such as instant message systems) or by being able to send and receive files or other data (such as filesharing systems). Many of these systems do not require ‘active’ time from the user in the same way as browsing a web page, or writing an email.

Nevertheless, the evidence for broadband users using the internet more is consistent with UK findings. Some broadband users use their fast connection an enormous amount; some use it quite a bit; while others don’t use it much at all. So what explains this variation? Why are some people better at adaptation? We contend that two distinct phases occur (see Figure 8): overcoming problems and exploring possibilities. Or, a broadband downturn, followed by a process of adaptation.

The broadband downturn

Our research suggests a fairly standard series of events that follow broadband adoption. The first of these is not necessarily positive: we call it the ‘broadband downturn’.

For most people – those who are neither computer geeks nor have much technical knowledge – the home PC is a delicate beast. As one of our respondents suggested: ‘it ain’t broke, don’t touch it’. Household ICT is fragile and installing broadband runs the risk of breaking it. Computers sit outside the comfort zone of most households and SMEs. They are quite different from microwave ovens, mobile phones and television sets, largely in their propensity to break. Households and business who have learnt to depend on a technology don’t want to risk jeopardising a working system by ‘fiddling’ with it.

This lack of technical knowledge is illustrated well by the Robinson family (see p44) and a discussion about technological ‘thingies’.

She goes to her Google homepage and types ‘nectar’ into the search field, and the first page comes up. She clicks to ‘enter the site’, but sits and watches with disappointment.

‘The thingy hasn’t thingy’d.’

Scott has his own folder on the desktop of the computer in his parents’ room. He

goes on this computer rather than the one in his shared room, ‘because that one ain’t got a good thingy’ [processor].

PCs often work alongside other ‘thingies’, like printers, scanners, digital video cameras. And when something doesn’t work, the user often does not know what to do. Is the software to blame? Is it a peripheral? Should I call the vendor? Is my connection broken? Broadband becomes yet another layer in this complex chain of interlinking technologies. Households and small businesses know they are different components (camera, lead, PC, OS) but seem unsure how exactly they fit together. And this really matters when things break and you don’t know how to fix them. When something isn’t working, which piece of the jigsaw is out of place? The loneliness of the early broadband adopter comes from such confusion.

Such a feeling – that if anything new is added to the computer it might just keel over and stop working – can be a microbarrier to adoption. But, if the decision has been taken to adopt, one’s worst fears can often be realised. For those running old operating systems, or using machines that aren’t set up properly, the addition of new technology can be painful and disruptive.

This downturn can be particularly marked if you choose to be ambitious

Adaptation (1) – overcoming difficulties

and attempt to use the new connection to set up a home network, or rejig your PC setup around broadband, as a family friend of this report's authors discovered. The following is quote from an email received earlier this year explaining the difficulties of trying to get a fully operational home network using a broadband connection:

'At long last fully operational on BB [broadband]. To hell with microbarriers. There are huge technical and information barriers in part erected by the retailers and BT etc to prevent you (a) using other equipment and (b) forming you own network to avoid paying more than once. Anyway 5 hours and three modems later Alan [a computer savvy friend] cracked it. Not a hope in doing it with a network on one's own.'

For this individual the entire process, from adoption to working properly, took two months. Although the network is now working perfectly, this is a classic example of the broadband downturn.

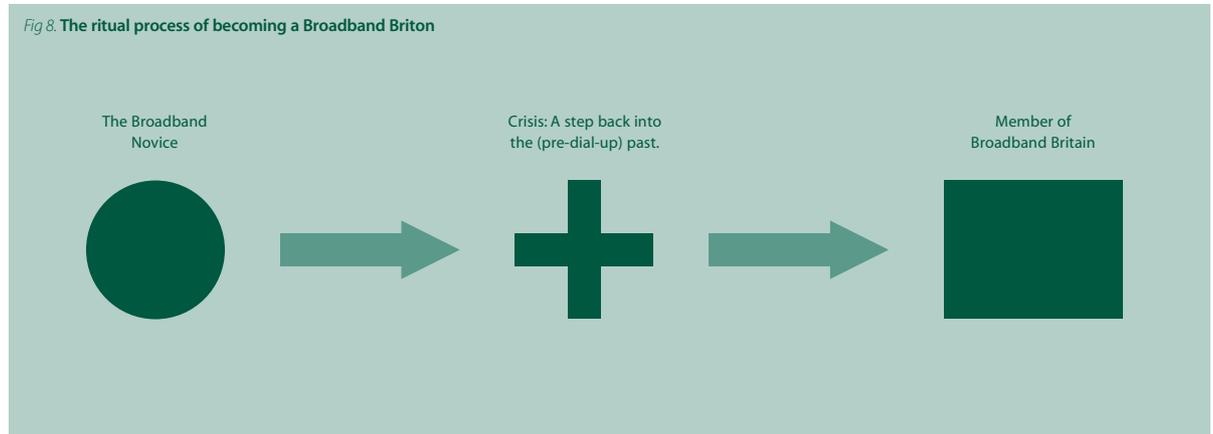
For some people broadband is a 'plug and play' technology that works perfectly. The Spencer family (see p10), for instance, had no trouble with their broadband adoption and can't see quite what all the fuss is about. But for many others the experience is problematic (See Figure 8). A number of our case studies experienced this: PND recruitment (pp 11) had to make over 100 phone calls to get their broadband to work properly with their systems while Fair Deal travel (pp 29) found themselves plunged back into a dark age without any internet access at all.

However most people who buy broadband eventually get it working. As Figure 8 suggests, this process of painful learning endured by some (although by no means all) adopters is useful. It allows the user to learn a little about how the systems work. Sometimes it also forces them to seek advice from other people. For every Samantha (see p29) being let down by her 'IT guy', there will an example similar to the friend of the authors in which Alan – the IT guy – helped out. This often social process can be helpful in other ways, equipping the new Broadband Briton for the next stage.

Our research suggests people rarely make the transition to broadband in a straightforward and pleasurable manner. All of our subjects had some issue; either with their provider or equipment. Many

Adaptation (1) – overcoming difficulties

Our research suggests people rarely make the transition to broadband in a straightforward and pleasurable manner. All of our subjects had some issue; either with their provider or equipment.



questioned their own ability to manage new technology. But this process, if the user is unlucky enough to go through it, can have an interesting consequence. By going through what anthropologists call a 'ritual process' – involving moments of doubt, fear and isolation – the user can come out the other side knowing more about the possibilities of broadband.

The broadband novice starts the journey with a fully functioning computer and a dialup connection. They lack technical knowledge, unsure about the differences between cable and ADSL, perhaps unsure who can offer them what service and even if it is available in their area. They do not know if their PC is

suitable, and what broadband might actually mean.

The novice has made their order for broadband, either cable or ADSL, they have waited for their modem to arrive and await the day their connection becomes live. When it does, broadband precipitates a series of failures with their system, problems which have no obvious location and appear to have no simple solution. Is it BT or NTL's fault, is my machine to blame? The call centre queues, the buck being passed around, the endless numbers, unreturned calls, the hair pulling, screams of despair: nearly all adopters have had moments such as these on the road to broadband.

Often it's a friend who knows a bit about computers who finally solves the problem.

Finally, all has started to function. The PC is running smoothly, the user marvels at the fact that their emails are just there and that pages on the web appear instantaneously, or something approximating it. Little by little they begin to explore the new environment, venturing to new locations and finding new experiences online. The pain involved in the broadband process was worth it. It has made them what they are: a new member of broadband Britain.

Case Study: 6

Fair Deal Travel

Fair Deal Travel, SME, South London

One full time, one part-time employee

Three phone lines

Two PCs running Windows 95 and 98.

Dial-up access with AOL, currently upgrading to BT broadband

Broadband in everyday life

- **Bruised and broadband** Samantha's move to broadband has been painful. Her computers didn't work when it was installed, she didn't know how to fix it, and her 'computer man' let her down.
- **Down with dial-up** Broadband's big benefit is not dialling up, providing a constant connection for checking prices and finding information. Speed is secondary and everything else irrelevant. The internet is only

beneficial if it can be woven seamlessly into the day-to-day sales process and works with a customer on the end of the phone line.

- **Modernising modems** Fair Deal Travel is not a technology business, but technology represents 'modernisation' and progress. If the broadband installation eventually works, a website for the shop will follow.
- **Help wanted** Fair Deal Travel has no technology expertise and relies on an

informal ecosystem of helpers and advice to keep its technology working. Samantha found out about broadband from a local business group and often gets her friends to help her out when she is stuck.

Broadband in everyday life

Samantha is a 36-year-old British woman of Jamaican descent who owns and runs Fair Deal Travel in New Cross, south London. Born-and-bred in south London, she lives by herself but has close family living nearby. Her route into selling travel

Case study: 6 – Fair Deal Travel



came about when a family friend offered her a job at his travel agency. Here she learned about the business. After a period of time, Samantha decided to start her own business, which has now been running for six years and specialises in travel for people with African and Caribbean roots wishing to visit family overseas.

Fair Deal Travel has cramped offices in a Victorian terrace, with little space to move and limited storage space for computers and stationery. Samantha's assistant sits by her computer, jammed into a small space by the front window and rubs off out-of-date bargain prices. Samantha sits behind a counter on the other side of the office, with a computer and two telephones, one to take the call from the customer and the other to phone agencies to check flight details and prices. A large map and a poster of a beach in Barbados dominate the background. This is definitely a 'no-frills' agency.

Technology is an important, but by no means central, part of the business. Samantha found out about broadband at a local business seminar about the benefits of using the internet for a small business. She felt that this would be ideal for her type of work. Before she decided to use broadband she was running her two computers on a normal dial-up system through AOL and this cost her £5.99 a month, plus calls. Because she checks out different prices on agency web pages, she ended up with heavy bills.

Samantha sees one big benefit of broadband: constant access. She needs to check prices quickly while on the phone to customers. Beyond that, she isn't really interested. The business doesn't use email much and she is not interested in other online activities. She sees the move to broadband as a way of making her business more efficient, but also hopes it will allow her to promote it. She plans a website – 'Most agencies have websites with latest costs and flight times. Most people just go there. This is how I will operate once I have it working' – but doesn't know much about them. When asked about updating her own site in this broadband environment, she replied: 'Oh yeah...I haven't really thought about that. I guess that'll cost more, won't it?'

Unfortunately, during our visit, Samantha's move to broadband was going from bad to worse. The line had been installed, and after a day of super-fast access, her entire system 'broke'. After a few visits, her 'computer man' thinks her dilapidated computers need an upgrade. With the machines out of action, Samantha and her business regress to trading the way she did when her business started, relying on three phone lines to receive calls and check prices. Often this can take 10–15 minutes and the customer loses interest and hangs up:

A customer rings to see if they can change the return date of their flight. Samantha

asks them to hold while she rings the agent. However, the agent does not answer the phone. Frustration is setting in and she explains to the customer that she will ring them back. She keeps on trying to ring but still there is no answer. After half-an-hour the agent answers and asks why Samantha did not just go to their website. She replied by saying that her system was down.

Afterwards, Samantha comments:

'See, if I was online with broadband I could check straight away...I need the information at the click of a mouse. This is like being back where I started six years ago. I need broadband working because I cannot carry on like this. I am losing too many customers...this is getting stupid.'

This retreat to the past is compounded by her basic ignorance of broadband: 'Yeah...I really don't know enough about it. I really should. I need to know how it works and all that.' She hopes broadband will revolutionise her work process, but for the moment, the revolution has stalled.

A lack of knowledge holds Samantha back both technically and entrepreneurially. She has little understanding of how broadband could take her business forward and little concrete understanding of how it could change how she operates. She relies on a network of informal support for IT and a good degree of guesswork. For her, the broadband revolution has been a case of one step forward, two steps back.

Case Study: 7

The Joneses

The Joneses, Altrincham

Life stage: Younger children

Father, works for distribution company. Mother, window dresser.

One son (10) and one daughter (5)

Dial-up internet access since 2000 – broadband since March 2003 through AOL

Broadband brief

- **Price comparison** The family feel that broadband saves them money because it allows them to shop around for offers. However, they still rely on big brands for security reasons. Paying bills online also saves time.
- **Educational tool** The computer and the internet are seen as a positive influence on the children's education.
- **Computer in the closet** The family computer is switched off and hidden from view when it is not in use.

Broadband in everyday life

The Jones family live in a two-down, three-up semi-detached house, a ten-minute drive from the centre of Altrincham. Mike and Mandy are both in their late 30s. Mike works in the warehouse of a distribution company, starting at 7 am and finishing at 3 pm, normally arriving home around 3.30 pm. Mandy is a window dresser. She works 9 am to 3 pm, which fits in nicely with the children's school day. Alexander is a shy but friendly ten-year-old. Emma is a

confident five going on 25. They go to school in the centre of Altrincham and Mandy drops them off and collects them on her way to and from work.

This is a very tidy household, although with the visible signs of young children. When everyone is home, activity is focused around the dining room. A dining table takes up the central space of the room where the family have their dinner and where Alexander and Emma will sit to do homework and draw pictures. There is also a sofa facing a

Case study: 7 – The Joneses



small television on a shelf to the left of the dining table, where the children like to watch *The Simpsons*.

They have two computers: one in the dining room and one in Alexander's bedroom. The computer in the dining room is in a cupboard in the corner of the room. When it is not in use, it is switched off and the cupboard is closed so that the computer and its associated bits and pieces – printer, CD-ROMs, speakers – are completely hidden. Mike normally turns on the computer when he gets home from work and then turns it off before he goes to bed. The computer is then used, on and off, throughout the evening.

Mike says that he is 'into gadgets' and as such is the main driver of technology adoption. The computer is a hobby, something he enjoys. He learnt how to it from his brother and nephew. He

telephones them with questions about how to do particular things (how to download images into clipart, how to download music). He mainly uses the computer for the internet.

Mandy says her favourite piece of technology is the washing machine, followed by the dishwasher. She did a City and Guilds computer course a few years ago but says it did not teach her about email and the internet – it was mainly Word and spreadsheets. She says she is scared of breaking the PC, and would rather use a spare hour to sit down with a magazine and a glass of wine. The computer provides no obvious benefit to Mandy.

Alexander uses the computer for homework and is really into computer games. Emma likes using the computer, but is less bothered about it than Alexander and also seems to be given

less priority than Alexander when it comes to who gets to use it. Emma has educational games, such as a *Teletubbies* CD-ROM.

They have had the internet almost as long as they have had the computer. They got it to help with Alexander's homework. They went with AOL because of the homework help, the virus scanner, and the children's internet setting. Mike thought broadband was too expensive at first and waited for the price to come down. They went for AOL broadband because of easy installation and free equipment – they felt that there were too many extra charges with BT. They have now had broadband for approximately six months.

The internet's main use is shopping and banking. Mike uses the internet for shopping but makes sure that it is a secure site. Mandy will not agree to food

Case study: 7 – The Joneses

shopping over the internet because she says you need to see the goods. Mike talks about how quick broadband is. For example, he booked a hotel, flights, and car for a family holiday to Ireland and it only took him an hour. He said it would have taken him much more time to go round the shops looking for the best deal. This provided them with an affordable holiday, the first holiday that they have had as a family and Mike and Mandy's first holiday since their honeymoon.

Mike uses the internet a lot for comparing prices – not spending more than necessary for a particular product is a priority in this household. For example, during one visit, Mike checked the price of a steamer on the Homebase website because he saw an advert for it in the paper. He then compared the price with the Argos website. He printed out the

details and later showed them to Mandy and compared features – cost, what it could be used for, power, length of time it could be used. Mike does all his banking and pays most of the household bills on the internet since getting broadband – it was too slow before.

Mike also likes the internet for the news pages. When they had Sky, Mike liked the news channels but they did not bother to get Sky again when they moved because now he can go on the CNN website, as well as the AOL news pages. Mike also reads the AOL homepage and follows links from that to current websites, e.g. the Pop Idol website. If he wants to find information on something, Mike uses the AOL search engine and ask.com. He says he finds the internet addictive – it 'sucks you in' and you do not notice the time slipping away. Mandy says that she is a 'cyberwidow'.

The whole family like watching film trailers on the AOL site and they use it to help decide if the children would like a particular film, ie whether they would find it too scary. They watch trailers on the Disney website, which is on their Favourites menu where there are also games that Emma and Alexander have tried.

For the Jones family, the internet is used largely as an educational tool, a tool to ease the chore of paying bills, and a tool for ensuring that they do not spend more than necessary on a particular item. Broadband has increased the amount that they use the internet, making shopping and paying bills online quick and easy, whereas without broadband it was a task that could be painfully slow.

The internet's main use is shopping and banking. Mike uses the internet for shopping but makes sure that it is a secure site.

Chapter 5

Adaptation (2) – exploring possibilities

So, you got over the difficult bit. Now how do you find out what is out there?

We identify four ways in which broadband users find out new things about the internet. These are: self-discovery; rediscovery; directed discovery; and proxy discovery.

But broadband is not enough: those who use it must discover its potential. The most important part of mastering the potential of broadband is what we call ‘wow moments’; the experience of discovering an online activity that makes the internet make sense in the user’s life. Most of these moments are not individual voyages of discovery. Instead they are things people do together and are best understood socially. Broadband users do not actually spend much more time surfing the web than narrowband users, but they do spend a lot more time

creating and sharing content, and using community-based applications. Most of the things we watched people doing online – even on trading sites like eBay – were strongly anchored in the shared everyday experience of family and friends.

The webpage of the UK Broadband Task Force claims that: ‘Broadband enables new and improved services: enhanced public services, improved business productivity and competitiveness, and new forms of entertainment.’²⁸ Really?

The problem with describing broadband as an ‘enabler’ is it tells us precisely nothing. If I have a car, I am ‘enabled’ to drive to Wales. It doesn’t mean that I do, or that I want to, or that I

know anything about Wales at all. A bottle of whisky in my cupboard ‘enables’ me to get drunk, just as much as it enables me to drink gradually, or not at all. Saying that broadband is an enabler explains very little about anything substantial. In particular it fails to explain why some people use broadband a lot, while others use it very little.

Compare two of the broadband families in this study – the Russells (p54) and the Boltons (p56). Both adopted broadband roughly a year prior to our visit. Both had similar backgrounds. Yet while the Russells had developed an advanced and familial use of their connection, the Boltons admitted they hadn’t really changed their surfing habits at all. These two families are a microcosm

Adaptation (2) – exploring possibilities

of an experience we suspect to be happening across Britain: equality of access, but significant differences of use. In the future there will be no digital divide as we currently understand it. When everyone in the country who wants to be online is online, the divide will be between those who use their technology to its fullest extent and those who do not. And it is adaptation, not adoption, which is critical to understanding why this happens.

Adaptation is ‘the act or process of changing something to one’s own ends’. Although complicated in reality, it is a simple idea common to any internet user. It is, indeed, highly necessary. The internet allows any user to do a million-and-one different things. We neither want nor are able nor need to do them all. Technology guru Manuel Castells calls it ‘the internet galaxy’ for a reason: the possibilities are limitless. In everyday life, adaptation means discovering which of those possibilities work for you and in which circumstances. So, in this instance ‘adaptation’ does not mean what technology enthusiasts tend to mean by the word, namely taking something designed for one purpose and cleverly adapting it for another.²⁹ Instead it means taking something that allows many different uses, and discovering which of them are useful, enjoyable or diverting.

Four ways of adapting

Broadband itself increases our ability to adapt to the internet, both by making the net work better and by enlarging the possibilities of what it can do. Broadband improves the narrowband internet, and adds a whole new level of activity which was previously laborious, slow or plain impossible.

One important precondition is attitude. In a previous iSociety report, *RealityIT: Technology In Everyday Life*, we identified a broad three-way split in attitudes towards technology. We dubbed these ‘fun, fear, and function’. Broadly, younger people had a more experimental and fun attitude to technology. Adults of working age tended to be much more functional: use the tools for the job, and don’t mess about too much. Finally, older users had an attitude dominated by various types of fear. This need not just be fear of the technology itself, but included fears of being ‘left behind’ by their grandchildren and the fear that they might be too old to learn new things. This sense of trepidation, however, was coupled with a powerful sense of wonder not felt by younger users. One older man from Manchester who took part in an iSociety focus group argued forcibly that ‘email was the greatest thing to have happened in my lifetime’. He was over 80.

Despite this, throughout our research we found that those who had fun online were more likely to adapt. Again, this might seem obvious, but amusement and entertainment – be it in the activity itself or in its social consequences – was a powerful force for creative experimentation. This is one of the reasons why children in a number of our families made greater use of the net.

But apart from having fun, how does broadband adaptation happen? Four things prompt it: self discovery; rediscovery; directed discovery; and proxy discovery.

First, self-discovery. You can find out something new on your own, either by accident or by a process of experimentation. These come in the form of what American legal theorist Cass Susstein calls ‘unanticipated encounters’³⁰: coming across something by trying out a new site, service or application.

Andy (pp44), the father of the Robinson family, is a good example of someone who quite enjoys experimenting on his own. As we explain: ‘He has form: the boys first computer was ‘assembled from bits’ by him, only recently replaced through a gift from grandparents last Christmas. Andy also upgrades the computers ‘regularly, and it was his decision to move to broadband fifteen months ago.’ Andy is the sort of

Adaptation is ‘the act or process of changing something to one’s own ends’. Although complicated in reality, it is a simple idea common to any internet user.

Adaptation (2) – exploring possibilities

internet user who fiddles, and who in turn will likely find new things with which to fiddle.

Second, rediscovery. You can find something you already knew about, but which works much better (or even works only) on broadband. This is a relatively common occurrence for the broadband user. Instant messenger, for instance, works much more effectively on an always-on connection and in particular works much more effectively when your friends have broadband too. Equally, the video clips available on the BBC News website are only really watchable on broadband.

Mark Spencer (pp9) frequently uses the BBC news site to watch video clips. Although he is uncertain as to whether it is actually better than the TV – ‘Right, I might go on the BBC news site. Look here, *Hutton hears Dyke’s doubts*....click here on the link...you get sound and image but none of the frills you get on the news’ – he certainly would not have been less able to look at the video before going onto broadband.

Third, directed discovery. Someone can suggest you do something new. For the experienced broadband user this is likely to be the most common way of adaptation. Those who use broadband all the time and whose friends do likewise will swap ideas about sites and applications. In so doing they create

mutually re-inforcing networks of adaptation. However, most users have no such luxury. Instead, the entreaty to try something new is as likely to come from children or neighbours.

Helen (pp66) found this experience when friends suggested she install firewall software to protect her computer from viruses after she had recently got onto the internet. Not knowing what a firewall was, Helen had fiddled around and found that her computer had one already. She simply switched it on.

Helen’s boyfriend Leon went one step further and installed Kazaa, the music downloading software, on Helen’s mum’s machine.

‘He did this because she’s a really big fan of Michael Jackson but since she’s on dial-up and not terribly tech-literate she’s not used it too much.’

Equally, Kate Griffiths’ parents (pp69) discovered eBay because of their daughter’s fascination with the site. It even prompted them to buy their own computer, having previously only used it at their daughter’s house. As we noted during our visit:

‘Kate’s parents both go on eBay now – they used to use it at Alan and Kate’s house and then decided to get their own computer. They do ‘silly’ purchases – Kate’s dad bought something for a penny,

so now Alan is looking out for an offer of two things for a penny.’

Finally, proxy discovery. Someone can ask you to do something for them, and in so doing you find out something new. Although this might not seem significant, a recent study by Richard Rose at the Oxford Internet Institute found that a full 7% of internet users are ‘proxy users’ who ask others to find them things online. In addition to this group, most internet users will have, on occasion, looked something up on the net for another person regardless of whether that other person had a connection or not.

Alan Griffiths (pp70) does this: in going to the BBC Cbeebies website to show his young daughter Sophie a game or an animation he is in effect being asked by someone else to look at something he might not otherwise have known about.

We should note that most of these adaptive processes are not individual but social. Throughout our encounters we found many examples of social adaptation – or social innovation – while cases of lone learning were harder to come by. We adapt with other people, through conversation among friends, colleagues and families. The twin phrases ‘why don’t you try that?’ and ‘how do I do this?’ are the most powerful ways of learning about the technology. Seeing internet users as

Adaptation (2) – exploring possibilities

isolated individuals, trying to work things out for themselves, is a mistake. We will return to this in the next chapter.

Broadband is not enough: ‘wow moments’

Anyone who uses the internet will often find new things out. This is part of the fun. But not all adaptation leads to significant changes in behaviour (see next chapter) or is even repeated. Indeed, broadband itself is rarely enough to cause such changes. From our research we concluded that, much as some broadband users adapt more easily than others, so some adaptations are more significant than others. Whereas some new things are never tried again and others have marginal impact, others will fundamentally alter the way in which the user sees the internet. These are the most important breakthroughs: we call them ‘wow moments’.

The experience of Lizzy Freeman (see p42) illustrates this point well. As we explain, Lizzy sells baby equipment from home. She used to sell it using the notice board at the local supermarket. When someone told her about eBay she thought she would give it a try. She found it worked well and when her family bought broadband it got better.

Much more than the adoption of broadband, discovering eBay and making her first sale remains Lizzy’s defining ‘web moment’. She becomes excited and

energised when talking about it: ‘It’s an absolutely ingenious site – the things you can do on it... you can find anything on eBay.’ She is a definite convert. She recounts reading a comment on the site saying ‘I was an eBay virgin – now I’m an addict’. She would now say the same of herself.

Our research picked up a number of such moments – moments in which the internet made sense for the first time. Just as Lizzy Freeman found her life changed by eBay, so Alice Bolton (pp58) was impressed by the first time she used Tesco.com. Although she ‘dislikes the £5 charge’ the site worked, the shopping was delivered on time and she now does her weekly shop online. Equally, booking a holiday changed the Robinson family’s (pp46) view of the possibilities of the net.

Thus, although broadband itself does not seem particularly special, the fact that it benefits the family in various ways is hugely important. These family benefits became clear to them when they discovered that they could buy cheaper holidays online. Actually booking their first family break abroad on the net remains their best example of how it made their lives better.

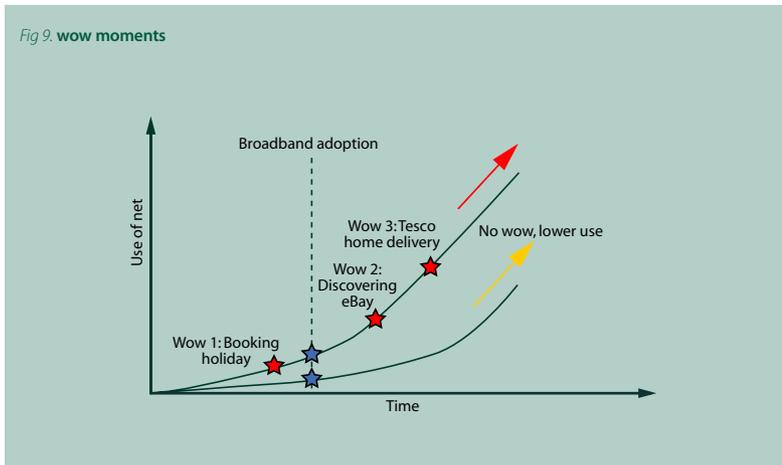
Rather than broadband itself being the critical step in more adventurous use, our research suggests that ‘wow’ events have more effect. Such events, from the

first email to a relative to the first time one of the people in our sample sold a product on eBay, open up the true possibilities of the internet. They function by bridging different stages of use, taking households or individual users from one such stage to another, through which they progress from simple tasks to more complex or advanced activities.

Figure 9, based on impressions from our research, gives an illustration of different trajectories of internet use over time, both before and after broadband adoption. The top line shows a path of use for those whose use of the internet has been accelerated by such wow events. The bottom line shows a slower increase in internet use, where the driver for broadband adoption was cost or freeing up a phone line. This illustrates how wow events are more powerful than simple connection in driving online use and activities.

Broadband users, as we argued above, have higher usage^{e26} patterns than non-broadband users. But, the difference between the serious users and the rest comes down to these moments in which the internet suddenly makes sense. Those who are experts at using the net – the geeks, those who use it extensively at work, the enthusiasts – will find these wow moments quite commonplace. If you have enough wows, then they become

Adaptation (2) – exploring possibilities



the norm. For some users the virtuous circle of individual and social experimentation, adaptation and growth is an everyday occurrence. But for the type of people detailed in this report, the wow moments really matter: they make the internet what it is.

Wow moments, everyday uses

Helping users have more such moments of discovery will help more people find the internet useful. But to make this happen those who run broadband services and think about its impact need to look again at what really makes a wow moment. And our contention is that these wow moments are rarely, if ever, anything to do with extensively

marketed fancy new high-bandwidth content. Instead they are rooted in everyday life.

It is not difficult to find those who promote over-the-top visions of how broadband will change the world, sweeping people along in the broo-ha-ha. One excitable commentator described it thus:

'In a process likened to an ambling stream morphing into a roaring river, the age of narrowband telecommunications is passing swiftly in this decade to one of digital broadband with a force that promises a tempest of socioeconomic change. Happening exquisitely at the start of the new millennium, the shift from the

*narrowband to the broadband culture is certain to mark an essential difference between life in the twentieth and twenty-first centuries, radically affecting how we learn, work, do business, communicate, are entertained, and practice democracy.'*³²

As we have argued above, for most people broadband isn't actually that special in and of itself. Anthony Rosenberg's son Josh (see p23) puts this succinctly: 'For those who know about it, it seems something big, but if you're not too savvy – well who cares?'

And the problem with the type of revolutionary prognostication above – entirely regrettable hyperbole apart – is that it tends to imply that broadband use

Adaptation (2) – exploring possibilities

Box 3: Everyday uses of broadband

Wow moments on broadband stem most commonly from existing habits and experiences. This is most true at work, where the nature of being in a job, and having to perform certain tasks ensures you have to experiment with technology to get things done. At home, by contrast, the best breakthroughs tend to come when they are closely tied to things in which people are already interested.

The Spencer family (see p9) share an interest in common with many Britons; with their family history. The British government suffered from this enthusiasm in early 2002 when 50 million hits from enthusiastic genealogy fans crashed the new Public Records Office 1901 Census *Family Records* website. Alice Spencer can see why:

'Since we have had broadband we have been able to trace our family tree... We have always been interested in it, but before we had broadband it took so bloody long for the search to happen... You know what? I found the other night that there is a hotel in Houston that is named after us.'

Again, the interest was there prior to broadband. Mary Spencer, in addition to being a history fan, works at the local bank where she is head of organising charity events for the local community. A social entrepreneur, she brings her interest in helping others home, and uses broadband to find pictures which in turn are used creatively:

Mary usually spends time creating gift cards on the computer while emailing friends. She then prints off the images she has designed and makes them into cards for sale. The profits she makes goes to local charities.

More than half of the families we visited either shopped or banked online. All of them ate and banked before the world-wide web. Paul Bolton's two sons (see p56) were interested in football before they started looking at football websites and would probably watch *Buffy the Vampire Slayer* regardless. And Helen's boyfriend Leon (p 66) was a music fan both prior to downloading tunes from the net and bidding for obscure musical instruments on eBay.

will be in some way exciting and new.

Forrester Research, spiritual home of hyperbolic technology nonsense, is a particular offender. In a report a few years ago entitled *Hooked on Broadband* they suggested that, by 2003, numerous entirely new forms of 'addictive broadband' experiences would have emerged to entice users:

'Regardless of their view on the form of broadband content, respondents [to their survey] expect users to program their own on-demand, personalized rich media

*experiences... By combining TV's audiovisual experiences with the unmatched control afforded by the web, broadband has the potential to deliver an experience that hooks users... addictive broadband content will proliferate, first in entertainment pockets, but eventually across all forms of online experience... By 2003, addictive broadband experiences will number in the thousands, available on both portals and entertainment sites.'*³³

We will return in the next chapter to why such views of rich media content are not

helpful in understanding broadband. But it is worth noting that, among the futuristic wrong-headedness, Forrester got one sentence right: 'By 2003, addictive broadband experiences will number in the thousands.' But the type of broadband activities that prove to be enticing are nothing like those predicted in *Hooked on Broadband*. Instead, they are marked out by not being new in any way, shape or form. They largely involve doing things you do already, online.

The lives of everyday broadband users

Adaptation (2) – exploring possibilities

Visions of broadband-use that promise new things – be it fabulous new experiences or the old vision of anonymous strangers chatting – are not representative of how most people actually use their connections.

written up in this report contain lots of good examples of how broadband makes sense to people, along with plenty of counterposed ways in which it doesn't. But when it does, it does so because it taps into something which its users want, or do already. It extends their lives, rather than introducing whole new things (see Box 3).

This point – blindingly obvious though it may seem – needs to be stressed strongly. Those who expect the internet to open up a whole wonderful world of new experiences aren't entirely wrong. It's just they are rarely right. Even if you look at an entirely new type of activity, the internet auction, we found that without exception those eBay users we visited used the site in large part to continue activities they had done before (see Box 4). This revolutionary application, it seems, is also strongly anchored in everyday life.

But this point is made most clearly when looking at the dominant use of the net: communication. American technology commentator Clay Shirky makes this point well when he notes that the vast majority of people used the internet to communicate with people who they already know. Futuristic visions of anonymous role-playing and alternative identities in chatrooms do exist. But their scale is dwarfed by everyday conversations online – via email, IM and the web – between people who know each other already. For sure, people are introduced to others via dating sites (eg iDate) and networking tools (eg Friendster). But again, this is a minority pursuit.

We found almost no one in our research who had met many new people online, but every single person used their broadband connection to keep in touch with others they knew. As Shirky goes on to say:

'We already know what people using

*networks want: they want to do what they do now, only cheaper, or faster, or both.'*³⁴

Visions of broadband-use that promise new things – be it fabulous new experiences or the old vision of anonymous strangers chatting – are not representative of how most people actually use their connections. They may be true for enthusiasts, and are certainly true for many young people, but the vast majority of those who will eventually be broadband users are unlikely to follow this pattern. Rooting our vision of broadband in the everyday lives of those who use it helps rather than hinders our understanding of its potentially transformative impact. And to understand this process properly we must now look at the third step in the broadband process: absorption.

Adaptation (2) – exploring possibilities

Box 4: Everyday eBay

Throughout our research we were consistently surprised by the impact that eBay had on the everyday lives of its users. Two things stand out. First, the two-way process of buying and selling made it particularly enticing. Second, the social element, from ‘look what I found!’ to ‘when does this bid end?’ allowed everyone to get involved.

Lizzy Freeman (see P42) found eBay useful because it helped her do something she did already – sell baby care products.

Alan and Kate Griffiths (see p69) share Lizzy’s enthusiasm for eBay, although they both use it more as a hobby than a livelihood.

There is clearly an excitement about bidding on ebay – Alan cannot access eBay from work and so has, on occasion, driven home from work during his lunchbreak to see if a bid has been successful. Kate collects teapots, which are displayed in the kitchen, and china dogs, which sit on the mantelpiece in the lounge, so she looks out for those. Alan and Kate used to go to car boot sales, and Alan and his father-in-law used to go to auctions – they see eBay as an alternative to car boot sales and auctions

Broadband extended and enhanced an existing interest. Kate’s china dog collection was around before the internet; the internet simply allowed her to grow it.

Lisa Russell (see p55) used to do a lot of shopping through catalogues, and indeed she still does. However, much of this enthusiasm has moved onto the web where she shops on a number of different sites. Again, it is eBay that is the star of the show:

The best way of conceptualising Lisa’s competent use of the internet is by imagining that she has laid out a number of shopping catalogues on her living room floor and is frantically flicking through them all to try and compare and find the right price. This is now all transferred onto the internet. But the crucial aspect of her broadband use is that it has allowed her to not waste time finding deals.

It also means she can dip in and out of her sessions, popping back to see how they are doing. Instead of doing everything at once, eBay is spread out throughout the days. For Alan and Kate, though, the internet seems to be mainly treated as a tool for entertainment – eBay is as much about trying to ‘win’ the bid as it is about getting good value for money.

Case Study: 8

The Freemans

The Freemans, Leeds

Lifestage: Younger Children

*Mother: runs small retail business from home;
father, hospital consultant*

Children: two daughters (4 and 6)

*PC and internet access for three years - three months with
NTL broadband, TV and telephone package*

Broadband in brief

- **Wow moments** Discovering eBay and using it for her business remains Lizzy's defining technology moment.
- **Net rules** In these and other wow moments it is the possibilities of the internet itself which impress. Broadband is rarely mentioned, and just quietly makes the processes easier in the background.
- **Time out** Broadband's main benefit is allowing 'relaxed and regular' access to the internet rather than occasional dialling up. But it has allowed Peter to work more from home, moving larger documents around with him.

Broadband in everyday life

Lizzy Freeman lives with her husband, Peter, and their two daughters, Cameron

(6) and Chloe (4) in an affluent suburb of north-east Leeds. Peter is a consultant at the Dewesbury hospital. Lizzy stays at home, running both the household and her own business selling baby equipment. She's a typical 'juggling mum' and uses technology to assist her in managing the demands of her children, her husband, the household and her business.

Technology is clearly conspicuous in the house, with Sky TV and DVDs in the living room and the kitchen TV with video above the microwave, not to mention the many phones. The family has had a PC and internet access for three-and-a-half years and broadband since August 2002. Before broadband, they had a pay-per-minute dial-up

account with one.tel. There are two landlines in the house: one for personal use and the other for Lizzy's business. They have a combined NTL home package, comprising digital TV, landline and broadband. In addition Lizzy uses her mobile in the home, both for calls and texting.

Lizzy says that the mobile is her favourite piece of technology and feels lost and isolated without it. But the PC is the most important piece of kit in her life. Lizzy's husband was the main driver of internet adoption, and particularly broadband acquisition, as he sends a large quantity of email and up/downloads many medical files and papers. But it is Lizzy's use of the internet to improve her business that is the most impressive

Case Study: 8 – The Freemans

element of the household's internet life.

During half-term Lizzy is concerned not to spend too much time online as this would not be fair to her daughters. She is clearly conscious of this when she notices them fighting in their bedroom as she puts another ad on eBay on Tuesday, around lunchtime. This kind of eBay work is usually done when the girls are at school.

Much more than the adoption of broadband, discovering eBay and making her first sale remains Lizzy's defining 'web moment'. She becomes excited and energised when talking about it: 'It's an absolutely ingenious site – the things you can do on it...you can find anything on eBay.'

Her items sell on eBay within hours where local press and supermarket ads used to take weeks. She tells of putting two ads on the site and finding that one sold within two hours while the other sold by 8am the next morning. Using the site has also changed the way she runs her business. Advertising to a national audience requires a more professional approach, including full product details with quality photos, colourful centred text, the total weight and shipping costs. She puts the adverts together using html tags she learnt from eBay itself.

The success and speed of selling via eBay sometimes gets too much for her limited business capacity. As she said during our visit: 'It's going a bit crazy, so

I'm not going to put anything else on until I've got rid of these.' But she is a definite convert. She recounts reading a comment on the site saying: 'I was an eBay virgin – now I'm an addict.' She would now say the same of herself.

For Lizzy, use of the net needs to be seen in the context of other technologies. The phone, for instance, is an important adjunct to her PC since would-be customers invariably call her about products for sale. She is entwined in this technology, literally, when she clips the cordless phone onto her belt as she walks about the house. She takes steps to ensure that technology is not taking over her life: when things are chaotic she takes time out by switching off the PC and disconnecting the phones. This happens mostly on Saturdays, a time for a lie-in and quality family time.

Beyond her business, Lizzy remains enthusiastic about ICT. Her email is through a HotMail account, and although she claims 70% of its use is for the business its social aspects are also impressive. She recalls another wow story – setting up a one way videophone conversation with a friend overseas – and seems genuinely taken aback that such a thing is possible. She was equally delighted that the net allowed her to get in touch with old friends through Friends Reunited. But she doesn't use the net for everything. For instance she only occasionally looks at news sites because

but her constant desire to be informed is serviced by watching Sky News.

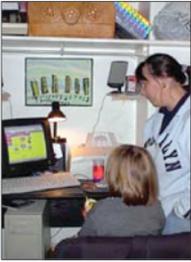
Overall, the internet is intimately linked in Lizzy's mind with the successful running of both the home economy and her business. Cost efficiencies in both are crucial in matters of business and household spending, and the internet fits into her desire to be aware of all options and never spending more money than she has to. 'Always shop around and do your homework first,' is her watchword. She thinks of broadband not as a technology, but as a way of allowing her to do things she values more easily.

The real benefit of a faster connection has been more 'seamless' access to her business use of eBay; being able to check in and out frequently, rather than dial-up occasionally. Lizzy remembers her 'clock-watching' habits before broadband. Now, she enjoys the relaxed enjoyment of her broadband account. She knows there is fixed monthly fee, so cost is not an issue. Using the net in this way, leaving it connected all day, means each session is suffused with an 'I'm making the most of it' feeling.

Much more than the adoption of broadband, discovering eBay and making her first sale remains Lizzy's defining 'web moment'.

Case Study: 9

The Robinsons



The Robinsons, Leeds

Lifestage: Older Children

Mother, part-time retail assistant.

Father, mobile computer engineer.

Children: two sons (12 and 15) and one daughter (6)

Two PCs and internet access: Dial-up since 1998, with Freeserve broadband for 15 months from NTL as phone, TV and broadband package

Broadband in brief

- **Enthusiasm** helps The Robinsons demonstrate the value of having a computer enthusiast in the house. Although almost none of their neighbours or friends are connected, because Andy enjoys computers and likes upgrading, the rest of the family benefit.
- **Wow events** They aren't wowed by broadband itself, but finding their first family holiday abroad on the net convinced them that the web was worth having.
- **Family first** Broadband is seen as a family benefit. Just as the family buy

their holidays online, so mother and daughter make the most of the BBC's education sites. Learning how to use broadband is not an individual pursuit. Instead, exciting developments are shared and the more accomplished users teach the less accomplished the tricks of the trade.

- **Computer in the closet** Despite the family focus, the computers are not fully domesticated. Both PCs are hidden in bedrooms – one is literally a computer in a closet – rather than the family and social rooms of the house.

Broadband in everyday life

The Robinson family live in Pudsey, a

suburb of Leeds, on a street of terraced stone houses. Lisa works an early shift at a local retailer while her husband Andy is a mobile computing engineer. They have two sons, Carl (15) and Scott (12), and one daughter, Briony (6). They are Leeds born-and-bred, and Lisa and the kids have only been to London once, to 'see all the touristy things, like where the Queen lives'.

They are all very friendly and outgoing, and the house often has more than its fair share of children hanging around, waiting to be collected by their working mums. The front room is a testament to family life. A photograph of

Case Study: 9 – The Robinsons

the children sits above the gas fire; to the right and against the window is a stand with the television and some framed family photographs next to it. The mantelpiece shelf functions as a repository for transitory items – the remote control, a cup of tea, some medicines, spare keys and anything else needing a temporary home.

The down-to-earth Robinsons do not easily conform to the stereotype of a highly technological broadband family. But on the first day of our visit Lisa – with her kids at school and husband at work – laughs when telling how that her friends though it was ‘right funny’ that

they had been chosen as a ‘typical family’ for the study.

Over the few days, it becomes clear why. Few of their friends have internet connections and indeed the Robinson household operates as something of a focal point for technology among their friends. This makes Andy somewhat unusual. A computer engineer and technology fan, he is the driving force behind his family’s move to broadband, ‘because of the benefits’. He has form: the boys’ first computer was ‘assembled from bits’ by him, only recently replaced through a gift from grandparents last Christmas. Andy also upgrades the

computers ‘regularly’, and it was his decision to move to broadband fifteen months ago.

The family technological environment includes three mobile phones, two computers and one television, plus one large stereo sound system in the parents’ bedroom, and a small one downstairs in the living room. The two computers are located in the boys shared bedroom and the parents room. As Lisa points out: ‘there’s not really much room downstairs’ in their three-up, two-down home. One of the computers is actually stored in a cupboard, and is locked away when not

Case Study: 9 - The Robinsons

Actually booking their first family break abroad on the net remains their best example of how it made their lives better.

used. Thus, as with many British homes, the computers are not part of the 'family' rooms.

They are, by their own reckoning, rare amongst local families in having internet and computer facilities. However, in a short time it has brought advantages of the kind that husband and father (and computer engineer) Andy foresaw. He describes the decision to upgrade to broadband: 'I think it's a thirst that comes along...so I think it's a natural progression' to want broadband after having a computer and net connection. And now wife Lisa is convinced, and thinks of the web as 'everything you could need'.

Being a family dominates both their social and technological lives. They are, according to Andy, not very sociable people because of the kids. When daughter Briony comes back from school she likes to watch the Disney channels, and in the evenings everyone but dad watches the The Simpsons and

Friends. Thus, although broadband itself does not seem particularly special, the fact that it benefits the family in various ways is hugely important. These family benefits became clear to them when they discovered that they could buy cheaper holidays online. Actually booking their first family break abroad on the net remains their best example of how it made their lives better. They also keep in touch with their boys' secondary school, which has an interactive website for both students and parents. Daughter Briony, now nearly seven-years-old, also likes the BBC Education websites that her mum sets up for her.

But the real enthusiasts in the household are all male. Andy enjoys computers generally. When not playing with his friends after school, Scott goes on the computer to play games and listen to music, although he's still learning how to download music. Meanwhile eldest son Carl seems to

think of himself as a bit of a whiz at computing. Mum Lisa puts this down to his age: 'He thinks he knows everything!'

Still, the entire family's use of the internet has increased since adopting broadband, and the key users in the household are important in driving this increase. They find new sites and provide encouragement. They are more confident and this rubs off on the less confident users. Left to her own devices, Lisa's use would have only increased incrementally: the support and encouragement of her sons and husband makes a big difference to her appreciation of the broadband proposition. She agrees that she has been using it more since the family acquired broadband.

Overall, the Robinsons show how important adaptation – and wow moments – can be. Broadband makes sense to them to the extent that they can make their family life better, and cheaper holidays helps do just that.

Chapter 6

Creating everyday life

So, you have got broadband, and found some new cool things to do with it. What next?

Adoption and adaptation are important steps in understanding the move from a narrowband to broadband Britain. However, having a connection and finding some cool things to do is still not enough. The final step is taking both and weaving them into the fabric of life. Finding something cool does not mean you actually do it a lot. Some people find things they like and then do them a lot. Others don't. We dub this process absorption. This continual process of adaptation and absorption drives internet use. The end result of this virtuous circle of adaptation is invisibility, when the technology embeds and is only noticed when it breaks or is unavailable.

Absorption is best understood not as the consumption of content, which

features so strongly in the marketing of broadband. Indeed the whole idea of content needs to be rethought. We can best understand absorption as a dynamic social process of creative interaction between families, friends and work colleagues. Broadband is different from narrowband because it allows more things to be created and shared by people. It is not like consuming food; it is like cooking.

In the previous chapter we suggested we were not satisfied with the notion of 'broadband content'. We aren't.

At the root of this is a fundamental disagreement over how people come to make broadband part of their everyday lives. We would characterise the broadband industry as having an

individualistic model of absorption based around what they would call content consumption. People sit around surfing websites, finding good things to do, consuming them and then deciding to do them again. More importantly, eventually they decide to pay money to do them – both through subscription and advertising – and the entire broadband industry retires happy for the night.

The problem with this view is its lack of basis in reality. We found scant evidence in our year-long investigation to back it up. Instead, we propose that you cannot understand these processes without looking at how the internet and broadband connections are used by people to link with other people.

Creating everyday life

Throughout our research the best examples of broadband becoming part and parcel of everyday life were bound up in social networks. Three types were clear. First, family: the family that surfs together is more likely to pick up and absorb new things. Second, friends: those who pass around and share things about the internet create a virtuous circle of use. Third, work: using the internet with colleagues creates an objective-driven way of using the web in which other people (along with deadlines and responsibilities) make you use the net in new and different ways.

Back to content for a second. Technology thinker Danny O'Brien put it best when he described the departure of a senior executive from British firm Telewest: 'His title was "Head of Broadband Content", which is like being "Man In Charge Of What People Should Say On The Telephone."' O'Brien was reacting to the entire idea that we should think about what people do on broadband as content. He was right. The problem isn't content itself, but what you do with it. In the parlance of the broadband industry, content is good for only one thing: being consumed. The broadband user is thus moved, in one linguistic body swerve, from being a real person to a couch potato. Instead of interactivity, to which even the most blithe broadband executive pays lip

service, the broadband consumer is little more than an object for things generated by companies.

At its worst, this sees a broadband-enabled computer as a really cool digital television where programmes are jazzed-up by other bits of media, largely produced by professional companies and advertisers. As our friends at Forrester Research argued at the turn of the century: 'by 2003...Advertisers will drive broadband content development.' Of course, advertisers do not drive broadband content development. People drive broadband content development. Why? Because broadband content is what people do.

What we dub absorption is the process by which a broadband user finds something to do which they like so much that they keep doing it. An adaptation that is done only a couple of times, and then forgotten, is not significant. For instance, one of the authors of this report was overjoyed to discover that his new broadband connection allowed him to watch old music videos on a website called Launch.com. For a few days in late 2001 he relived his youth by streaming lots of four-minute rock videos. And, after that, he never went to the site again. He found something good to do which was only possible by having adopted and adapted broadband, but he did not absorb the process.

Thomas Davenport, in his book *The Attention Economy*, puts this point well.

*'In the past the key limiting factor in economic success was access – first access to the means of production, and eventually access to markets and customers. With the advent of the internet, the access problem has virtually disappeared... As a result some observers have heralded the rise of "friction free commerce". In the future, however, the friction is a matter of the human mind.'*³⁷

Creating frictionless experiences using broadband is much easier when other people help. This involves a three-step process. First, finding out what the technology can do for you. This involves a broad process of adaptation. Second, changing your behaviour based upon that discovery. This is the first part of absorption. Third, reacting to behaviour changes in other people based on the same discovery. And this is where technology starts to become embedded.

In this way many of the most compelling broadband applications require other people to change their behaviour, too. As iSociety's *MobileUK* report argued,³⁸ using a mobile phone became both easier and more essential when everyone else had one too. There wasn't much point having a mobile phone when no one else did, because all you could do was call other people's landlines.

Creating everyday life

Box 5: Where has all the time gone?

Throughout this report we have looked at how broadband users differ from narrowband. Two facts stand out. First, broadband users spend more time online. Second, broadband users do not actually spend much more time surfing the web for news and entertainment. In other words, they are not spending this time consuming content provided by companies.

So, if broadband users are not surfing more and they are not consuming content, what exactly are they doing? Where

has all the time gone? A study by McKinsey (see Chapter 5) suggests that they are using community applications, ranging from instant messenger to file-downloading software. But the important point is clear: people on broadband spend more time either creating and sharing content or communicating with other people. And it is these processes that help them absorb the internet into their everyday lives.

But when everyone you knew had a mobile, having one became absolutely necessary because you could never find anyone at their landline. In this process, need creates use, and use in turn creates need. We change our behaviour in step with other people and in so doing, technology takes a hold of our lives. This is what absorption means; and at its most profound it is almost entirely a social process.

Absorbing broadband

Our case studies show numerous examples of broadband as a phenomenon rooted in family, friends, and colleagues. The process is relatively simple. An adaptation is made when someone finds something new by undergoing one of the four processes outlined in the previous chapter. This is then locked into family life, more often than not through telling other people about it. After a while, when this process

becomes normal, the broadband connection itself becomes less visible. We notice the things we do but not the technology itself. We notice the food, but not the fridge.

This need not always be the case. Sometimes the absorption process is grounded in tasks relating to a user's life or job. So when Alan Spencer (see p9) uses his internet connection to prepare for his day's lessons he is responding to the task of being a school teacher. When Samantha from Fair Deal Travel (see p29) tries to use her broadband to check on travel prices, she is responding to the needs of her customers. And when Mike Jones (see p33) buys home improvement products on the web, he is responding to the desire to improve his family's home. But, in all of these cases, a purely individualistic content consumption model is entirely inadequate to

understand what is making these ordinary people embed broadband internet into their day-to-day routine.

Elsewhere we see evidence of the social importance of broadband much more clearly. The Russell family (see p54) are probably the best example. They have taken many steps to integrate the web into their family lives and now enjoy a mutually reinforcing environment in which those who adapt to new things tell everyone else; and they in turn help others absorb. This includes shopping, buying holidays, finding cheat codes for Xbox games, using each other's AOL log-ons, finding music to listen to and helping the kids do their homework. It even extends to smutty humour:

Claire, as Lisa explains, uses the internet because she is into toilet humour, looking up sites such as madblast.com and fart.com to get new jokes and watch

Creating everyday life

animated versions of her favourite pop stars singing their hits while farting and burping. Claire is sitting at the PC while Lisa and James are sitting at the kitchen table having a drink. 'Mum, mum check out this one of Britney Spears.' We look over her shoulder to see a cartoon of Britney Spears farting. 'Very funny... When that downloading has finished it's time for bed.'

The Locke family (see p20) show similar traits. Although only one of their three children now lives at home all the time, the others do not live far away and remain part of the fabric of any given week. Their original decision to purchase broadband was social: the deal being that the parents and two of the children would pay a third of the monthly bill each. Steve uses his broadband connection to mess around with pictures and video, and despite both being readily available online he prefers to get examples from his friends and family.

The Jones Family (see p31) also show elements of social broadband use. For instance, the whole family like watching film trailers on the AOL site and they use it to help decide if the children would like a particular film, or whether they would find it too scary. They watch trailers on the Disney website, which is on their 'favourites' menu, where there are also games which the children have tried. Mike Jones says that their family is obsessed with Disney and they hope to

be able to take the children to DisneyWorld sometime soon. Watching trailers on broadband is a classic example of what broadband companies see as content consumption. But once again, this use of content is best understood as a social rather than individual pursuit.

The Spencer family (see p9), however, are probably the most colourful broadband family we met during our research. At first glance they are an unlikely broadband household; after a longer look they couldn't seem more ideal. They are a 'family family' in which everything is discussed and everyone knows what everyone else is doing, and thus they weave all their technology – from television to broadband – into each other's lives. During the evening, when everyone is around, broadband use becomes a tag-team activity in which everyone takes a turn and shares what they found with everyone else.

The internet and broadband has become a central feature in the Spencer household. It allows for quick access because it is always on and is only switched off at night-time and switched on first thing in the morning. It becomes a multipurpose piece of household technology that allows for quick referencing to detailed research and serving to leisure activates like gaming.

Oddly, perhaps the most family-orientated online activity in banking. They all bank

online, and Mary notes that she even does her son's banking for him:

'Because Alan has not got his own computer in his flat and is too bloody lazy, he rings me up at home to look at this balance on the net and then transfer money over from one account to the other.'

Jason, the middle child, even experiences the frustration of going back to pre-broadband problems when he talks to his girlfriend on the phone. This experience is similar to that outlined in the previous chapter (see p28) when users went through a broadband downturn. Once broadband has become invisible, you only get frustrated when things stop working or it is unavailable:

Jason is on the telephone sitting on the stairs in the hall way talking to his girlfriend while Mary and Mark are having a glass of wine in the kitchen talking about their day's work. Alice is checking her balance on the net when there is an expletive from Jason: '*!?!*', the phone has gone dead again... I wish her mum would stop doing this. Every time I ring her up her mother goes upstairs to their computer and logs on, which then cuts of the bloody phone line... Now I have to wait for her to log off.'

This is something that the Spencer family no longer has to endure. They have made broadband part of their lives and

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only really notice it when it doesn't work.

Collecting people:

The true promise of broadband

As we have seen, broadband is at its best when it is social. As we argued earlier, it takes hold of people when they say either 'how do I do this?' or 'how you do you that?'. And, this process of social interaction holds in it the true revolutionary power of the technology. This has nothing to do with content consumption and everything to do with doing things for yourself. At base the promise of broadband is not about consumption. It is about creative interaction with other people.

Take a simple analogy. The broadband industry often seems to think that the experience of being on broadband is like fast food: you pay for it, it arrives, you eat it. But we don't consume media in the way we consume food. The web, email, and instant messenger don't deliver content in the way that a supermarket delivers beans. Even television doesn't deliver content in this way. It delivers programmes, some of which are informative, some of which are entertaining and some of which are simply rubbish. Some TV wants you to be passive, some wants you engage, and some wants to call you to action either by interacting with the show (*Big Brother*) or with the wider world (*Comic Relief*).

But the internet provides much greater opportunity for creative interaction than is possible on television.

Our contention, backed up by the way we saw people behaving, is that using broadband is not like fast food at all. Instead it is like cooking. Different types of media are ingredients to make a meal: you might follow the recipe, or just make something up for yourself. You might cook a meal for one; you might cook a dinner party. And sometimes you do want fast food. But, at its best, broadband is a Sunday roast for all the family.

Broadband is different from narrowband because it allows more things to be produced and shared by people. Dialup, by virtue of the way it splits up the time people spend online (see Chapter 8) divides information and communication into two separate areas. Broadband begins to merge the two and information and communication become part of the same process. Communication often involves finding information, and vice versa. Extra bandwidth helps to bring this out, and in turn creates a more social medium. And this, again, is where the idea of content consumption falls down. Because social life is not content. Social life is simply what people do, but using the medium of the internet to do it in different ways. This idea – broadband as fundamentally

about creative interaction rather than passive consumption – taps into much more significant theories about the changing nature of modern capitalism. The eminent social thinker Zygmunt Bauman has the best take on this problem. As Daniel Leighton argues in an interview with Bauman, in the policy magazine *Renewal*:

*'Central to Bauman's analysis is the notion that today's societies are integrated around consumption rather than production. Freedom is modelled on freedom to choose how one satisfies individual desires and constructs one's identity via the medium of the consumer market. As a consequence, Bauman contends that freedom and individual fate have increasingly become "privatised".'*³⁹

Bauman's overall thesis, best outlined in his book *In Search of Politics*, is simple. People have never been more confident as consumers. Members of western societies are entirely comfortable ordering grande, triple-shot, decaff, skinny everything. Compared with their parents – some of whom grew up with rationing – today's younger generation have known nothing but bountiful consumer choice. But, conversely, we have never felt less able to change the world around us. It isn't that we don't want to make a difference; we can't see how. We feel unable to produce,

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consequently rejecting things like politics and civic association because we can't quite grasp the point of it all.

But this does not mean people do not seek ways to produce. Indeed, they become more valuable. As associate of The Work Foundation Richard Reeves has argued, many people revert to an almost Marxist model in which work – and doing cool things during the course of your job – becomes a source of identity.⁴⁰ When you can't produce at home, your production at work becomes more important. Elsewhere, the continuing rise of alternative lifestyles, from alternative medicine, to self-help groups, to arts and crafts, can all be characterised as a reaction to a society in which there isn't much to do but shop.

In a consumer society, opportunities to be creative become more important. This might be creating a gift card, a football league, or an anti-globalisation march. It might be taking a digital picture and

sending it to your parents, or joining the millions of people who have started weblogs in the last few years. Whatever it is, the internet can help. Put simply, broadband can help us be creative, nourish social relationships, and interact with the world around us. Of course, throughout our case studies we saw plenty of people surfing websites for news and entertainment. But we also saw scores of examples of the creative and social production of content. And it was this second group which showed how and why users absorbed the internet into their lives.

This is backed up by research into the behavioural patterns of US broadband users produced for the PEW Internet and American Life. Their research shows one major difference between the broadband consumer and the narrowband consumer: creating and sharing content. Sharing certain types of content can be difficult without a broadband

connection. Large pictures, music or video files require bandwidth to send quickly and efficiently. Unlike other types of activity outlined above, when swapping files faster connections are definitely better connections. File sharing systems, such as Kazaa or Limewire, might work on dial-up, but they don't work very well. The research suggests that: 'Broadband users are about twice as likely as dial-up users to have ever done these things.'⁴¹

Equally, weblogs and other types of online publishing, which have democratised the creation of written content, benefit from permanent connection that allows its users to update them quickly. PEW's research suggests that it is the use of such systems for creating and sharing content that marks out the first characteristic of the broadband consumer. Broadband is not different because it allows people to consumer more (although it does allow

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that). Again, broadband is different because it allows content to be produced and shared.

Yet even this idea of production relies on a slightly skewed version of content as complicated 'rich media'. In fact, the most compelling content remains interacting with other people and broadband, as noted in the previous chapter, helps people communicate better. It is these relationships with other people, whether they are anonymous through file-sharing networks, well-known through instant messenger, or in the same house through family, which truly make the internet come to life. Imagine a broadband internet without other people there? It would be a fairly lifeless place.

It is notable that all of the most interesting things to happen on the web during the last couple of years have involved other people. William Davies, in a previous iSociety report, chronicled the

rise of social software⁴². All of the things he discusses – weblogs, live journals, friendster, dating sites, reputation management systems – involve the social creation and sharing of ideas and information. And they only work properly with a broadband connection.

Equally, many of the most compelling success stories of the internet have been successful to the extent that they connected people and helped them produce. The Family Records Office census site, which collapsed under weight of enthusiastic use at launch in 2001, allowed families to find out their heritage. Friends Reunited allowed people to get hold of those that they used to know, and it would not have worked unless at least some of those they used to know turned up.

Even eBay, nominally a process of exchange based around money, has clear social qualities as we outlined in the previous chapter (see Box 4). On one

level it allows both buying and selling. On another, as comes through clearly in a number of our encounters, those buying and selling tell their friends and family what they are up to. A consumerist explanation gives only half the picture.

Throughout the case studies we have found people who collect things. Kate Griffith collects china dogs. Steve Locke collects Thunderbirds. Leon, Helen's boyfriend, collects music. But it is Josh Rosenberg (see p22) who put his finger on it best: "I collect people," he noted, showing off his impressive buddy list on his instant messaging system. Broadband, by allowing content to be produced and shared by people, becomes how we make the internet what it is, and how we absorb it into everyday life.

Their research shows one major difference between the broadband consumer and the narrowband consumer: creating and sharing content.

Case Study: 10

The Russells

The Russells, Kent

Lifestage: Older children

Mother: office worker; father, facilities manager

Two children: a son (9) and a daughter (14)

One phone line and three PCs

AOL broadband for 12 months

Broadband brief

- **Life goes on** Broadband frees up the phone line. Now people can get in touch with them all the time and the worry factor has gone out of using the internet for long periods of time.
- **Absorbed broadband** The Russells have fully absorbed to broadband. The internet has become a constant but subtle part of life, woven into the fabric of everyday activity. They have a PC in their sitting room, which helps.
- **Speed** Speed of access is important for downloading music and moving swiftly between websites.
- **No downturn** AOL has offered the family a simple and smooth transition without any teething problems. They think it can be trusted.

Broadband in everyday life

The Russells live in a 1930s semi-detached, four-bedroom house in Falconwood, Kent. Lisa lives with her two children, Claire (14) and Tom (9), and her

partner, James, who spends most of the time at the house. Lisa is in her late 30s and works 'up in London' at the Department of Health (DoH). James also works for the DoH as a facilities manager. Claire is in her second year of secondary school and spends most of her time outside school playing with her friends in the local area – as long as she has her mobile phone with her so Lisa can keep in touch. Tom spends most of his time in his bedroom gaming on his Xbox.

Case Study: 10 - The Russells

The sitting room is designed around the large wide-screen TV, but they also have a desk in the corner with a Shuttle X PC and chair.

In the evening Lisa makes sure that her children have completed their homework and have eaten their tea before they can watch TV, game or surf the web. She is also orderly and constantly asks the children to tidy up. While this goes on she and James open a bottle of white wine or Barcardi Breezer, marking the 'wind down' mode in their day. The children are usually in bed between 8pm–9pm. Lisa seems constantly busy and likes the fact that broadband helps her get more done: 'It has really helped me cause I don't have much time to get everything ready for the kids when I get home.'

The Russell family have three computers: the main Shuttle X PC in the sitting room, a flat-screen Dell upstairs in the spare room, and James' computer in their bedroom. There are three mobile phones, a widescreen TV with Sky and DVD player in the sitting room, an Xbox in Tom's room and a TV, video and radio in Claire's room.

The main PC is surrounded by small speakers and the front of the PC is customised with a coloured front that fits into the room's colour, and two webcams. Lisa logs in to their PC from work to check on the house.

'Sometimes I will log into the PC here from work and check to see if the kids are behaving themselves or in when I say they have to be... I can also check to see if the dog has messed up the sitting room.'

The main PC has an ideal position in the house. Physically next to the open entrance to the kitchen and sitting room, it allows it to compete with the traditional TV as the central piece of technology in the house. Lisa can watch to see what the kids are using it for while cooking or relaxing. The PC's influence extends from it being just a static piece of technology to one that holds the household's music.

'Look...Where are all the CDs?...'

Where are they? They are all downloaded here in the PC that we have and then we can play whatever. No more clutter. When friends come around you can have a whole play list...James usually does this.' – Lisa

They went on broadband using AOL and found the experience painless. As Lisa said: 'All you had to do was plug the bloody thing in...that's all. Everyone freaks with this idea of broadband.' They also like the AOL child protection as the kids use the PC for homework. Google and Ask Jeeves help get the job done. However, Lisa feels that this slightly unfair on children who cannot afford a computer.

Lisa also loves to shop and her purse is full of credit cards and reward cards. She uses the net to compare deals on holidays, Xbox games and exercise bikes. Broadband helps her to move back and forth between sites quickly. She is also an eBay addict and each session starts with her looking to see if her desired item is being auctioned. She then compares the price on eBay with other sites. Her use of the family PC is more be akin to a futuristic *Minority Report* computer than the family PC.

When Tom is allowed freely to use the internet he spends most of his time gaming on cartoonnetwork.com or finding cheat codes to get him to the next stage on one of his Xbox games. Claire, apart from downloading her favourite music hits, uses the internet because she is into toilet humour, looking up sites such as madblast.com and fart.com to get new jokes and watch animated versions of her favourite pop stars singing their hits while farting and burping.

The Russells are probably the best example we found of a family who are absorbed by – and have absorbed – Broadband. They have found ways to make it part and parcel of family life.

'Sometimes I will log into the PC here from work and check to see if the kids are behaving themselves or in when I say they have to be... I can also check to see if the dog has messed up the sitting room.'



Case Study: 11

The Boltons

The Boltons, London

Life stage: Younger children

Mother; part-time legal secretary; father, Sales Manager.

Two sons (13 and 10)

*Dial-up internet access since 1999 –
broadband since June 2002*

Broadband brief

- **Broadband is not enough:** Although better than narrowband, broadband has not really changed the family's surfing habits.
- **Fragile ecosystems** Despite Paul being a keen fiddler, the various devices connected to the PC create a fragile ecosystem. This requires outside help to keep it going.
- **Cost counts** A cost-benefit analysis was the major reason for upgrading

to broadband, following a step-by-step adoption process.

- **Computer in the closet** The family computer is hidden from view in the converted garage, rather than being centrally located in the family rooms of the house.
- **Trust Tesco** The family's online shopping is limited, and they rely on big brands like Tesco and Barclaycard.

Broadband in everyday life

Alice and her family live in a semi-detached

house in a new development on the outskirts of Watford. They moved about four years ago, shortly after she married Paul, her second husband. Alice is a legal secretary, working three days a week. Paul works as a sales manager for a company in north London. Their two boys both go to school locally.

Their house is extremely tidy. On our arrival, Alice quickly apologises for the small television set, explaining that they would like a bigger set but they haven't got round to buying one yet. Their NTL

Case Study: 11 – The Boltons

digibox and laptop keyboard are tucked away behind a glass-fronted cabinet. Computers do not seem to fit in to this orderly set-up, and are banished from the main rooms of the house. Some time ago they converted their garage into a dining room, which now houses the computer, printer, speakers along with a large dining table. A filing cabinet under the desk contains computer magazines, lists of passwords and their digital video camera.

The Bolton's technological knowledge is carried over between work and home. Paul is more familiar with IT largely because he uses complex sales databases at work, and is familiar with email from communication with clients at the office. He is planning to buy a PC from work and has toyed with the idea of networking to the machine downstairs. He has little concept of why this would be useful but appears to like the challenge. In stark contrast, Alice's thinks she suffers from working in an antiquated environment. Although all the staff use PCs the machines are not networked together. They pass documents to each other by floppy disk. Only two work machines have internet

access (dial-up) and anyone who wants to use email must wait until a machine is vacated to do so.

At home they now have broadband and cable TV through NTL, having graduated from NTL's per-minute dial-up. Originally, the children were only 'treated' to the internet at night, with consequent jams on the household phone. Increasing use prompted a move to an unmetered service at £10 per month, and then a second phone line for an extra £5. When the second line became £10 a month, and they were paying a total of £20 a month for two lines and unmetered access they decided to switch to broadband. Upgrading was a simple cost-benefit analysis: by losing the extra line and getting a bundled TV and broadband package, they saved money.

It was the boys' father that had bought them their first machine, an Apple, seven years ago for the his son's birthday. This is a family that buys into technology and likes to have the latest, if not the best, of what is available. Since this Apple they have progressed from a Pentium II machine to a Pentium 4. Years later, they are considering an upgrade to XP Home Edition because they have heard it is

'much better than ME'. Similarly, Alice notes that they are going to be buying a flat-screen LCD monitor, although their present monitor is high quality.

The family are not computer experts and require outside help to keep their various technologies working together. The PC is in good working order, but recently had to be rebuilt by a local computer shop because it was not picking up the family video camera. This was to allow Paul to try his hand at filmmaking: he wants to use the PC to make a film of the family's recent holiday in Tenerife. The machine's good running is a matter of pride to Paul. Alice complains that she lies in bed late at night waiting for him to stop tinkering with the PC – 'because he wants it 'just so'. Despite this, the family rarely try new things with their PC, with tasks limited to email, occasional internet research, and playing *Championship Manager*.

The family all have email addresses, although since the rebuild they all come into the same Outlook client. The system used to be set up by profile and Alice is concerned that her sons may now see the occasional email from their father, her first husband, that he addresses to



Case Study: 11 – The Boltons

The Bolton's technological knowledge is carried over between work and home. Paul is more familiar with IT largely because he uses complex sales databases at work, and is familiar with email from communication with clients at the office.

her. She asks Paul if he can return the system to its original state, but he is not sure how to do so. Much like the house, the computer desktop is scrupulously tidy. The 'My Documents' folder is the central repository for the small collection of family documents, in which each family member has their own folder.

The two boys use the machine downstairs, principally for their homework, doing small bits of research with Paul's help, and playing Football Manager. They occasionally email Paul's boss about the prospects for Watford FC in Saturday's match, but otherwise their internet use is restricted to the boys' staples: WWF, Buffy and football. Both spend more time in their rooms playing games on consoles.

Alice's use is largely small ventures into online shopping. She is a fan of Tesco.com, but dislikes the £5 delivery charge. She has also used the net for holiday car hire, travel insurance and her own car's insurance. She says that the family isn't scared of shopping online, but adds that they use their Barclaycard to be sure. Using one well-known brand reassures them in what is still a rather unknown online world.

Overall, the Bolton's upgrading to broadband has not yet changed their use of their internet significantly. But they admit that it has changed their perception of it gradually and feel that their use is becoming a little more fluid and adventurous. As a family they would probably like to do more online, perhaps even create a webpage or two with the help of the magazine cutting they have kept. But in the short term at least this looks unlikely.

Chapter 7

Speed and time – rethinking broadband

Now we have a better understanding of how people adopt, adapt, and absorb, what does this mean for the technology itself? It draws into question broadband's two main selling points: speed and always-on.

Broadband is marketed as being fast. And speed does matter. Consumers see the 'world-wide wait' as painful, and view the speed of broadband as an advantage. But it isn't the be-all and end-all. Speed of connection relates to activity and context. Ever increasing connection speeds enable more activities, but they do not necessarily lead to ever increasing levels of use. And getting things done faster is not always a user objective. Put bluntly, broadband is not just about speed. Equally, but for different reasons, broadband is not always 'always-on'.

Speed's flip-side is time. All too often we assume that broadband helps its users rush to get things done. Our research suggests something quite

different. Broadband time is 'timeless time' in which users dip in and out of the internet. As one of our respondents said: 'broadband is about not having worrying if the peas are boiling over in the kitchen.' Broadband time is about taking it easy.

Speed and time are central to any sensible understanding of the social impact of the internet. It costs money, but it also takes time. Numerous academic papers have been written claiming that time spent online is well spent⁴³. It allows making friends, nourishing social relationships, or learning new things. Conversely, another body of evidence suggests time online is bad for us. Popular with social capital theorists like Robert Puttnam,⁴⁴ the

argument goes that the net steals time away from more meaningful social activities and gives birth to lonely antisocial computer addicts.⁴⁵

There are elements of truth in both views. There is strong evidence to suggest, for instance, that broadband users do spend considerably more time on the internet. On the other hand, that time is more often spent communicating with others (building social ties) or not watching television.⁴⁶

The problem for broadband is different. The evolution of technology has always been framed in terms of speed: microchips get faster, video recorders rewind faster, graphics are processed faster, food is cooked faster. People expect that any technological

Speed and time – rethinking broadband

development is going to be faster: this is the sine qua non of technological advance. As a technology that is ‘up to ten times faster’, broadband fits all too nicely into our Sunday-supplement understanding of accelerated 21st century living.

Books like James Gleick’s *Faster: The Acceleration of Just About Everything* overflow with examples of ‘fast culture’ in which real-time markets exist to service real-time consumers living at a pace of life unimaginable two decades ago. These are complimented by similar concerns about time. Oxford academic Theodore Zeldin claims that: ‘Technology has been a rapid heartbeat... squeezing more and more into the allotted span. Nobody expected that it would create the feeling that life moves too fast.’⁴⁸ The Work Foundation has published research on time and the labour market⁴⁹, making a now common distinction between the frenetic ‘time poor’ and the less harassed ‘time rich’. The research suggest that (for some) time is now often a commodity as scarce and valuable as money.

Broadband, in allowing people to surf faster and save time, is grist to the mill of such visions of a rushed, hyper-connected society. But the reality is different. Considering the arguments of the previous three chapters, we must look again at how speed and time sit in our new framework of understanding how

people weave fast Internet access into their lives. Our contention is that speed is not a useful way of understanding why some people become more proficient at using the internet. Let us look in turn at the true impact of both speed and time in the everyday lives of the broadband users we visited.

Broadband isn’t just about speed

BT produces *A Guide To The Possibilities of broadband*. It uses the standard marketing line: ‘From now on, using the internet will be up to 10x faster’. A footnote reads: ‘BT Broadband enables you to surf the internet up to 10x faster than a standard dial-up connection.’

It would be both churlish and wrongheaded to argue that this is not an important part of the broadband package. Most internet users who use the web, as opposed to just using email, find the narrowband wait irritating. A slow connection severely restricts both the possibilities of the web and the enjoyment of using what is there.

Broadband certainly gets rid of that problem and makes a noticeable improvement to the user experience of browsing the web or performing everyday functions. Anecdotal evidence suggests that very few users who experience broadband would gladly go back to narrowband. Although you can’t experience broadband in a shop, once you have it at home it is difficult to

return to dial-up.

It is unsurprising therefore that internet users tell surveys that speed is the primary benefit of broadband. Forthcoming research for the UK Broadband Stakeholder Group, produced by NOP, suggest that 77% of internet users and 80% of broadband users see a ‘faster internet experience’ as the primary benefit of upgrading.⁵⁰

Despite this, our research suggests two important new ways of understanding the broadband mentality. Firstly, realising the benefits of speed depends on the activity that any user is undertaking. Some things work better at speed than others. Secondly, realising the benefits of speed suggests that getting tasks done more quickly is an objective of the user. This is often not the case.

Let us take a few examples of the variable impact of speed. It is most important in a real-time environment, in which you are doing things at the same time as someone else. If you play a computer game online the speed of a connection can be the difference between winning and losing. Equally a fast connection can be important for those at work. If you need to download a file quickly, or a virus checker for a potentially infected computer, speed becomes more important.

It seems obvious that some activities are not possible without a fast

Speed and time – rethinking broadband

connection; some are made better with one and a few largely unaffected. The promise of speed depends on certain types of high bandwidth activities: downloading files, streaming media and so forth. Those internet users with less adventurous habits will find speed less compelling than those who do. We must remember that the top recorded activities performed on the web in general, and by broadband users, remain searching for information and email.⁵¹ The former is certainly improved by broadband, with the faster connection allowing more pages to be searched more quickly. Ultimately a faster connection helps the twin processes of adaptation and absorption, but it does not necessarily ensure they occur.

For speed to help we must ask if getting things done faster is an objective of the user? Are the things we have seen that really make a difference in our case studies – choosing a family holiday, shopping at tesco.com or bidding on an eBay auction – activities to be rushed?

Not always. The families we spent time with did complain about the speed of their previous dialup connections. We also found many examples of times at which speed was helpful. Mark Spencer (see p9) wanted a fast connection to help him prepare his lessons quickly, just as Lisa Russell appreciates the speed of connection allowing her to bid without

delay on eBay. But Jason Spencer (see p10) shows that speed isn't always something appreciated at the time, but that it can work in the background:

'Nah seriously, before it was about an hour for one track, now it is a matter of minutes...you can line them up so you can leave it on all night and it will download them.'

Overall, we found a mature understanding that there were times in which speed mattered and times at which it was less important.

There is a danger of over-promising the speed of broadband that is inclined to raise expectations and leave adopters disappointed.⁵² Anthony Rosenberg (see p23) remarked to us that: 'It's not as fast as I thought it would be.' Equally, David from PND Recruitment (see p11) suggested:

'It's quicker, but it's not instant. I thought it would be instant, but I don't know whether that is the system of the connection. That's one thing that stood out, I did think it would be instant – click on your link and you'd be there.'

Selling speed as the USP of broadband can be like telling the soon-to-be owner of a Ford Mondeo that it is faster than a Model T. If they do not know this already, they are more than likely to expect it. If many of the activities that occupy the online time of the people we talked to do not require oodles of speed, speed

begins to look like a red herring.

Alice Bolton (see p56) raised perhaps a more interesting question when she said: 'It's fast isn't it?...but it's not the fastest there is...how fast would that be?' If speed is indeed the most important property of broadband, then we might expect rates of adaptation and absorption to increase as speed increases beyond the current 512kbps. This is where arguments for the transformational impact of speed really fall down.

Keith Hampton and Barry Wellman, two well-known academics, conducted a famous study of Netville, a suburb of Toronto. They examined how the internet changed the social lives of two groups of people: first a part of Netville where people had access to broadband, and a second part where they did not. The results were clear: those in the wired area were more sociable. Hampton and Wellman show that internet access is helpful in maintaining local and long-distance ties. 'It has not replaced existing means of communication, but it has provide a new form of social contact to personal networks.'⁵³

But, the interesting thing about the study was how fast the connections were. As the authors note: 'Netville's broadband network delivered synchronous network access at 10 Mbps, 300 times faster than conventional dial-

Speed and time – rethinking broadband

Fig 10. Time analogies

Dial-up	Broadband
A walk from A to B	Ambling and sauntering
Tourism	Travel
Being task-focused	Browsing
Getting to work on time	A walk in the park
Taking a shower	A relaxing bath
Landline	Mobile phone

up access and ten times faster than most residential cable-modem and digital-subscriber line (DSL) services.⁵⁴ Yet, clearly the authors did not expect their wired residents to be 300 times more sociable. The idea that the speed of the network fast would an impact was never mentioned. This is because ever-increasing connection speeds – from 512kbs to 1024kbs, and beyond – are not a good predictor of the influence of the internet.

This problem is rooted in history. The idea that ‘speed is good’ makes assumptions about the way people behave online from the world of dial-up. Yes, people get very frustrated with dial-up connections and feel rushed into getting things done quickly for reasons of

cost or fear of losing their connection. But in the realm of broadband, speed drops out of the frame. As the following section explains broadband internet is fundamentally about how you spend time. With broadband, speed becomes about taking it slow and not having to worry about time.

Broadband time is timeless time

Our research suggests that time on broadband is quite different from time on narrowband. Think about it this way. For most people in Britain, narrowband internet is like taking a shower. You turn it on, you get in, you shower, you get out. It is something you do a couple of times a day at most, at certain times and with a specific purpose.

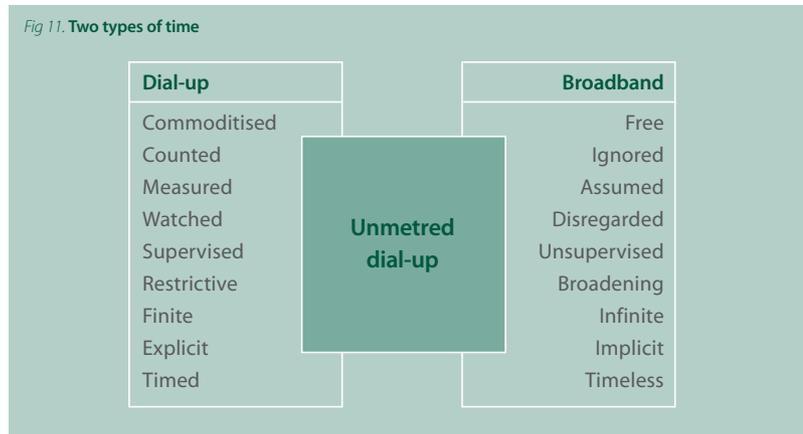
Broadband, to date, has been presented

as a power shower. It’s the same old shower, but much faster. By extension, it’s not on a meter, so you can leave it running. This power shower has been sold by virtue of its technical property, namely its ability to deliver water/bandwidth faster. But no one buys a power showers because it delivers 300 cubic millilitres of water a second. Instead, you take a power shower to relax.

Broadband – as we argue above – is often sold as if consumers care about the technicalities of speed. By contrast our research has thrown up insights into the very different nature of dial-up and broadband time. These qualities drive different perceptions and use of the internet. (See Figure 10.)

Speed and time – rethinking broadband

Fig 11. Two types of time



Dial-up time is a commodity that, whether paid for by the minute or unmetered, is more obvious, visible and perceptible to the internet user. Dial-up time has opportunity costs, not least that the phone line can't be used for the phone. It forces a separation between often related or integrated tasks, like looking for information on the web and making a phone call. It does not encourage multi-tasking because dialup users tend to be more task focused and time conscious. A beginning and an end mark dialup time: logging on and logging off. This marks the boundaries of an online session while making being online feel like a different type of activity. The result? Users watch the clock. They are conscious of time throughout (see Figure 10).

Broadband time is different. Time spent at the computer is not counted, and consequently is more likely to be enjoyed. Being online is not 'marked-off'. A wide range of activities can be performed simultaneously. Broadband users can happily combine tasks, shift from one job to another or walk away from their machine mid-process. With broadband, multi-tasking is about doing different things online and offline. The PC becomes more clearly situated in the flow of everyday activities, be it in the household or office.

Our research suggests that broadband time is timeless time. It is only as rushed as the activity you want to do. As Alice Bolton (see p56) said during our visit:

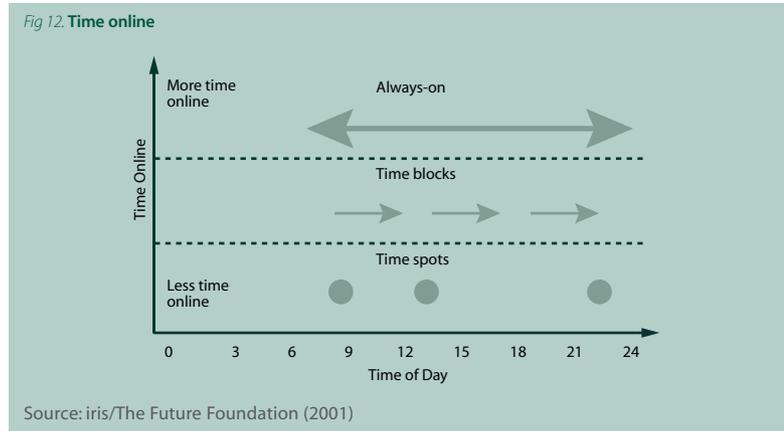
'You go off, okay, and then you come back. On broadband I can go off to the kitchen to see if the peas are boiling over when I'm in the middle of something on the internet... You can just browse. Time flies, it just goes away with you on the broadband.'

So, in this context, claims about speed miss the mark. People want to enjoy timeless internet, particularly if at work they have limited scope for unfocused surfing. Claims about speed infer rushing, but broadband can equally be about taking your time.

Research from the Future Foundation⁵⁵ (see Figure 12) has charted the development of internet users; time online. This suggests that, far from

Speed and time – rethinking broadband

Broadband time is different. Time spent at the computer is not counted, and consequently is more likely to be enjoyed. Being online is not 'marked-off'



rushing, those who spend most time online simply dip in and out of their connection throughout the day. Narrowband users are characterised by 'time spots' of activity, in which you pop upstairs to do something, or check email. Broadband users instead use 'time blocks' in which the internet is used – sometimes intensively, sometimes superficially – for larger blocks of time. The final stage, always-on, sees the internet become a seamless and omnipresent backdrop to life.

This chimes with research, mentioned previously, from the PEW Internet research project.⁵⁶ They identify the move from narrowband to broadband by the way users look for information.

Narrowband users tend to use the net less frequently, and for fewer things. Broadband users use the internet more for queries and searching. This combines with evidence showing that broadband users do more things online on a typical day, taking advantage of their improved connection to perform a wider range of tasks and use more applications. This combination of increased frequency of use and increased variety of activity transforms the internet from an occasional medium to one in which users 'snack' or graze more frequently, and on a greater variety of information. In short: narrowband users rush their food, broadband users graze happily.

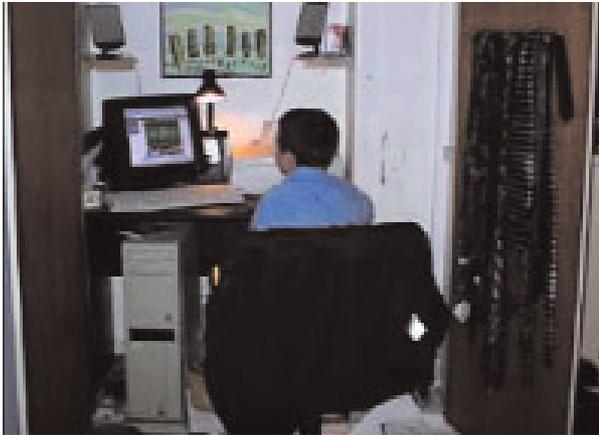
Broadband is not always 'always-on'

One final addendum from our research is

needed to set this in context. The Future Foundation research suggests always-on access – in which the internet becomes part of the fabric of daily life – is the most advanced stage of internet adaptation. We agree. But we found strong everyday barriers to the delivery of such always-on access.

Most obviously, if the computer is not always-on then the internet isn't either. In the majority of the households we visited the internet computer was turned off for extended periods. This reduces the time available for 'dipping-in' tasks, like quickly checking a fact or finding information. Also, because household PCs take a minute or two to boot up, the opportunity cost of finding such information is often too much to make it worth the bother. For

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always-on to be meaningful the PC must be always-on, too.

Household geography also matters. The Work Foundation's Max Nathan has argued that where things are in offices makes a material difference to how people work.⁵⁷ We found exactly the same to be true of technology in the home. In the majority of the households we visited PCs were not found in the family or communal spaces of the house. Rather, they were tucked away in dining rooms and garages or utility rooms and bedrooms. In two cases we actually found that the PC was hidden from view in a cupboard – literally a computer in the closet.

Much of this is explained by aesthetics. Computers just look bad in the public

areas of houses. Mould-breaking Apple iMacs aside, computers in light grey or sand-coloured plastic are hardly sexy. Excesses of protruding wires, along with ancillary junk (manuals, boxes, computer magazines) don't help. So flat screen television sets are flaunted, PCs are hidden.

Yet, where the computer lives is important because this effects how integrated it becomes. The PC tends to be tucked away in a cupboard or on a 'computer console', physically and symbolically apart. Yet, are PCs sitting awkwardly on bedroom IKEA desks unlikely to be well-incorporated into domestic space?

Does this really matter? We think so. In the most interesting households we visited computers had edged their way into the family areas of the house. Consequently they were vastly more social, tied into the minute-to-minute activities of those living there. As we argued in the Chapter 6, adapting and absorbing broadband is as much about communication in the home as it is communication across the internet. So those families – such as the Spencers and the Griffiths – who have their machines in the midst of their family spaces tend to get the most out of it. It is no accident that those families who hide their PCs away tend also to have less social surfing patterns.

The Future Foundation research suggests always-on access – in which the internet becomes part of the fabric of daily life – is the most advanced stage of internet adaptation.

Case Study: 12

Helen

Helen, north London

Lifestage: young professional, no children

Runs small PR business from home

Lives with partner in small flat

For last 12 months, BT broadband installed on separate phone line

Broadband in brief

- **Essential broadband** Broadband is seen as crucial to Helen's start-up business. She couldn't run her company without it. But getting her broadband set up was not easy.
- **Information junky** Helen is a self-confessed email and internet addict. She also runs Run Kazaa and uses AOL IM.
- **Splitting work and home** Helen uses her computer day and night, in the same room, for work and pleasure.

But her habits do change during work and non-work hours.

- **Support wanted** Helen seeks various avenues of support from companies and friends. She receives a large volume of spam emails everyday, and is gradually becoming more and more annoyed by them. Pop-up ads were also a problem until she found the software to stop them.

Broadband in everyday life

Helen and her partner Leon are

unmarried. She's of Nigerian descent and Leon's French. She's older than him and they've been together for about five years. They have a variety of shared interests, namely music, art and photography.

Helen runs her own business having worked for a series of PR companies and latterly client-side in a large media/television company. A big hobby and something that Helen is spending time developing her interests is

Case Study: 12 – Helen

photography. She draws little distinction between work and leisure interests; her media habits reflect this blurring. As she says: 'We're on it all day. During the evening it's on, watching TV and surfing.'

Starting out on her own was the impetus for buying a PC and installing broadband. It was her start-up kit; all she felt she needed to start out in business. Helen did a lot of research before buying her laptop, which she bought online. It's connected to an HP inkjet printer, scanner, fax and copier machine. Her process of adoption was lengthy and fractious. She has an additional phone line to split work and home calls, and to avoid the possibility that friends 'who were pissed didn't answer the work phone'.

She opted for BT ADSL, but then experienced a series of issues with the additional phone line (not run through a digital exchange) and had a drawn-out argument with BT about remedying the problem. Much of her start-up activity, such as buying her PC, was therefore conducted from the internet café down the road.

Helen uses the internet all the time. She does turn her laptop off if she is

going out for more than a few hours, but otherwise the machine is on and connected from morning to late at night. She has morning ritual: she boots up the machine, puts her contact lenses in, then goes online before doing her teeth. She then hits Send/Receive on Outlook so her emails arrive when she is out of her shower. The remainder of the day is punctuated by hitting Send/Receive, making calls and looking on the web for work- (and play-) related information while working on documents.

Broadband is the cornerstone of her home office.

She sends an email to follow-up on a conversation she's just been having and then answers the phone. During the conversation she prints out the email. Later on the phone interrupts the writing of an email and she abandons it to send one to her clients – noting to me that this phone call has put her off the scent of this email she was writing. The phone rings and she uses the opportunity to press Send/Receive.

On a day-to-day basis Helen uses MS Office, particularly Word, Internet Explorer and Outlook. The machine has

no real other major applications loaded onto it, although there is an FTP client and a popup stopper. She's driven to distraction by pop-ups and is thankful for her domain-hosting company, Cheap Names, for recommending the software she installed:

'Yes, I'd go mad without it... I'd have to kill myself otherwise! When I'm trying to work it's just so annoying.'

She phones the hosting company quite frequently for this sort of support. Friends had told her that she needed a firewall, so she discovered and activated the built-in firewall on Windows XP. She expresses concern, in very untechnological terms, about viruses, spam and people taking control of her machine. Spam is a particular problem: making up around 75% of all email she receives on her work and AOL accounts.

In other areas of her technology use she appears to suffer from a lack of ongoing technical support. She's aware of this 'gap'. For example, her Outlook email client is set up with a signature but she's tried to set it up so that it collects emails periodically without her intervention ('like at my old company'),

Case Study: 12 – Helen

One element of broadband is its ability to distract, something Helen puts down to a state of mind, but with broadband you don't have email time: 'It's integrated or seamless, kind of...'

but has failed to do so. She therefore concludes that 'I must have got it set up wrong'. She senses that this sort of undermines the broadband experience.

One element of broadband is its ability to distract, something Helen puts down to a state of mind, but with broadband you don't have email time: 'It's integrated or seamless, kind of...'. Multi-tasking is the key word that Helen uses to describe the benefit of being on broadband, and broadband is an invisible infrastructure that allows this to take place. During the

evening broadband becomes even more integrated into the household. Music and or the television is switched on, the house is silent during the day, and the PC fills the gap between programmes or provides a dual focus of attention during favourite programmes.

'The beauty of broadband is doing one thing and then making a phone call; it's always been the way I work – I'm doing one thing and then I can do another thing...I need to be able to do everything at the same time.'

Helen and Leon are good examples of what broadband can become – a seamless and helpful tool entwined with other things they do.

Case Study: 13

The Griffiths

The Griffiths, Altrincham.

Life stage: Younger children

*Father; health and safety officer;
mother, customer service advisor.*

One daughter (2)

*Dial-up internet access since 2000 –
broadband since September 2002 through NTL
telephone, TV and broadband package.*

Broadband brief

- **Price comparison** The family feel that broadband saves them money because it allows them to shop around for offers.
- **eBay addicts** Alan and Kate go on eBay daily and enjoy the ‘winning’ element of it, as well as the money-saving aspect. They even convinced Kate’s parents use it.
- **Children and broadband** The internet is seen as a positive influence on Sophie’s education and as something

that adds to family life, rather than detracts from it.

Broadband in everyday life

The Griffith family live in a two-up, two-down semi-detached house, a 15-minute drive from the centre of Altrincham. Alan is 28. He is a health and safety officer for a car and motorcycle insurance company that specialises in classic cars. Kate works for the same company, answering the telephones in the customer service department. She works 9 am until 3 pm, allowing her to spend more time with

her young daughter. Sophie is a happy, hyperactive two-year-old.

The conservatory at the back of the house is where the family spends most of their time. There are two large comfortable sofas (which Sophie likes to jump about on), a TV and DVD player. When Alan gets home from work, the family will normally spend about an hour together in the conservatory, talking about the day.

Alan is the main user of the computer, which lives in the dining room between

Case Study: 13 – The Griffiths



the kitchen and the conservatory. It is kept in the corner, next to the conservatory door, allowing Alan to use the computer while talking to Kate and Sophie. The computer is placed on a standard computer desk, on which there are also catalogues, CDs and speakers for the computer.

The computer is Alan's hobby. He has built a couple of PCs himself, with the help of his brother-in-law, who taught Alan most of what he knows. He will normally turn on the computer when he gets home from work, if Kate has not already, and he turns it off when he goes to bed. The main use of the computer is the internet, although Alan also uses Word and using PowerPoint for work.

Alan and Kate have had internet access for about four years and broadband for about one year. They justify the cost on the grounds that they do not go out much, due to having a young child. The motivation behind choosing broadband was the increased speed. Alan is also positive about the fact that now, when he is on the internet, he can wander away from the computer to talk to Kate or play with Sophie, whereas before he would have been worrying about the cost. It also means that if Kate finds a web page that she wants to show Alan, she can leave it on to show to him.

They mainly use the internet for shopping and price comparison. Under

their 'Favourites', they have B&Q, Argos, Index and Tesco. Both Alan and Kate are eBay addicts, and they both talk about it very enthusiastically. Alan cannot access eBay from work and so has, on occasion, driven home from work during his lunchbreak to see if a bid has been successful. If Alan wants to buy something, he will check eBay first.

As they all have internet access, Alan and Kate use email regularly for communicating with Kate's parents and sister. The emails tend to be brief, a bit like a text message, eg 'RU coming over tonight?'

While Kate may use the internet for 15 minutes a day, Alan uses it for at least an hour. He uses it work, and one of the first things he does is check his work email, especially when he has been out of the office on a site visit all day. He also uses the internet for work research, especially the Health and Safety Executive website for finding out about regulations. Alan says that he values having the internet at home, because it allows him to spend more time at home with his family, whereas otherwise he would be working late in the office doing those things.

In terms of entertainment, Alan downloads a lot of music using WinMX. He feels that being able to download music justifies the cost of broadband. If he was not able to do that, broadband would not provide adequate value.

Sophie likes the Cbeebies website, which she will ask her parents to put on for her. Alan sees the computer as an important educational tool for Sophie, more than just entertainment. When Sophie is older, Alan plans to get another computer to keep in her bedroom. As well, the computer is another way for Alan to spend time with Sophie. For him, rather than detracting from family life, the computer adds to it.

Alan is very concerned about viruses and SpyWare when downloading films and music. He recently installed the Tiny Personal Firewall, after his brother-in-law found SpyWare and viruses on Alan's computer.

For this family, although they use the internet for shopping, the internet seems to be mainly treated as a tool for entertainment – eBay is as much about trying to 'win' the bid as it is about getting good value for money. The internet is also treated as an educational tool, and will presumably be treated even more so as Sophie gets older. Broadband allows Alan and Kate more freedom – freedom for Kate to leave a page open until Alan gets home, to download music, to keep checking eBay and to wander away from the computer to play with Sophie.

Chapter 8

Conclusion and recommendations

We began this report by asking what a Britain with 20 million broadband users would look like. Would it be different? Would it be better?

We are optimists. We believe it can be and that it will be. Technology can be a force for immensely positive social change. And throughout this report we have provided descriptions of how this could happen.

This change has next to nothing to do with rich media or content consumption. But it has everything to do with families like those featured in this report, like the Spencer family, and the way they talk about broadband. Or PND Recruitment regarding broadband as part and parcel of being a young company. Or Lizzy Freeman finding out what eBay could do for her. Or Alan Griffith, sitting at the PC playing games with his two-year-old daughter. These people are the future of Broadband Britain, and understanding what makes them tick should be the British technology industry's number one priority.

But understanding is not enough. What most people need most is support. At present, support is the loose change you get back after you buy technology: the lengthy wait on hold with the technology 'support' line, the confusion when things don't work. It can't be an accident that every family and business we spent time with had developed informal networks of support to help them cope with the vicissitudes of being a Broadband Briton. These people hold their technology together by a mixture of helpful friends and the best 'IT guy' they know. But this is no way to run a networked society.

We face a problem: the more people

adopt broadband, the less technical knowledge they have. The critical challenge for the UK technology industry is to raise its game and find better ways to support its customers. This must happen in two ways, and relate to our earlier chapters: first, overcoming problems and second, exploring possibilities.

We need to find ways of helping people keep the show on the road. Computers are scary monsters; a more dangerous animal than the household pet. And they break. Job one for the IT industry is to find better ways to help people manage the technological ecosystems on which they increasingly rely.

Conclusions and recommendations

But more importantly, we need to find better ways to help people explore the possibilities of the internet. Not everyone is lucky enough to have wired friends or net-head children to explain to them what the internet can do. Instead, users need formal networks of support and learning. But we can't provide this support at present because the industry is set up to flog its consumers 'compelling content' they probably neither want nor need.

James Maxmin and Shoshana Zuboff argue in a recent book that the next stage of capitalism is a move from a service economy to a 'support economy'. The companies which win in this move will be those who provide rich support, not rich media content. They will be those who help their customers overcome problems and explore possibilities. They will be those companies who realise that value is created after, not at, the point of sale.

Getting to 20 million broadband users will take more than a decade. But the more support we can provide to people, the faster we will get there and the better the experience will be. And it remains the best way of building an internet which makes sense to the people of Britain.

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Next steps for Broadband Britain – The Broadband Stakeholder Group



BSG
**Broadband
Stakeholder
Group**

Two years ago the BSG decided that we needed to get under the skin of broadband users. Together with The Work Foundation's iSociety programme we undertook research for our annual conference in 2002. This was intended to challenge conventional understandings of how people use broadband. It did just that.

This year we decided to support more research. And this report draws heavily on the result of this partnership.

While the BSG does not necessarily endorse all of the ideas in this report, we welcome its approach and style. We supported the research to provide new perspectives and throw up new ideas about how we make Broadband a 'must have' for households across the country. I think this research does just that: it is a major challenge to the industry to think in more depth about what it does, and to consider again how we can best understand people and their use of the internet. It should be read widely, and discussed throughout the sector.

If just some of the ideas in these pages are correct, and we as a community in turn act on its findings, it will have done a great service. This is an important piece of work, and it deserves your serious attention. The BSG will be taking its findings forward in our ongoing work.

Antony Walker
CEO
Broadband Stakeholder Group

Authors

James Crabtree is research director of the iSociety project at The Work Foundation.

Dr Simon Roberts is iSociety's anthropologist in residence. He also runs Ideas Bazaar, a market research agency specialising in ethnography.

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Peter Runge House
3 Carlton House Terrace,
London SW1Y 5DG

t. +44 0 20 7004 7100
f. +44 0 20 7004 7111
www.theworkfoundation.com

Fat Pipes, Connected People – Rethinking Broadband Britain

Imagine a country with 20 million broadband users. Will it be better? Will it be different? It could be. Fat Pipes, Connected People, the result of a year-long study of everyday British broadband users in partnership with the Broadband Stakeholder Group, explains why broadband matters and how we can get more people using it.

Rethinking Broadband

Fat pipes are the future. But we understand precious little about why people use the broadband internet and how they weave it into their lives. This report uses extensive new ethnographic research to show how and why people use the internet. It introduces a range of concepts – from broadband microbarriers to adaptation, absorption, and wow moments – to explain how everyday users make the internet make sense, and why the UK telecoms industry misunderstands its customers.

About iSociety

The relationship between information technology and how it affects our behaviour in the way we live and work is the single most critical social and economic issue of our time. The Work Foundation's iSociety project is an independent investigation of the impact of information and communication technology (ICT) in the UK, with special emphasis on technology in everyday life, at home, in communities and at work. Run in The Work Foundation's research department and with generous support from Microsoft and PricewaterhouseCoopers, iSociety

continues to identify 'deep impact' changes brought about by the widespread diffusion of ICT in our lives. Launched in April 2001, iSociety remains the largest non-government funded research project on information technology in the UK.

In partnership with

BSG

**Broadband
Stakeholder
Group**

Peter Runge House
3 Carlton House Terrace, London SW1Y 5DG

telephone +44 0 20 7004 7100

facsimile +44 0 20 7004 7111

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