

Digital Divide in the UK?

Fact Sheet

Lesson 1: The UK's digital divide

Starter

A technology timeline

The key geographical concept driving this study of people and places is **internet connectivity**. A digital divide exists between people who have access to the internet (and other forms of digital communication) and those who do not. The divide can be either **social** or **spatial** in nature (and the two are inter-related).

As a starter activity, find out what students know about the growth of the internet and other technologies (especially mobile phone ownership) during their own lifetimes. Many will be surprised to discover how recently digital technology became an aspect of everyday life for British people.

Several interactive websites give excellent insight into the growth of internet technical capacity and uptake over time. Possible sites to visit as part of a starter exercise include:

- The BBC provides an interactive guide, *SuperPower: Visualising the internet*, to the growth of the internet and how it works at:
<http://news.bbc.co.uk/1/hi/technology/8552410.stm>
- The Guardian's interactive historical guide to internet growth, *A people's history of the internet: from Arpanet in 1969 to today*:
<http://www.guardian.co.uk/technology/interactive/2009/oct/23/internet-arpanet>

Specification advice

Edexcel, OCR, AQA, WJEC and IB centres will all be investigating the factors that have led to globalisation as either a compulsory or optional topic. Knowledge of the **internet timeline** – which dates back to the late 1960s and arguably earlier if the development of the PC is factored in as an essential supporting technology – is **very useful for candidates**.

Teaching tip

Both of the web-links suggested below have excellent graphics for overhead projection as part of a lesson starter.

Main activity

(1) The UK's social digital divide

In the UK today, around 30% of homes lack any kind of access to ICT. As many as 10 million British citizens have never been online and of these 4 million are classified as "highly disadvantaged" individuals. A large proportion are aged 65 and over.

Why is this an issue? Because the evidence suggests that:

- A typical family can save £560 using online services that include cheap purchasing of goods (e.g. of children's books at Amazon) and services (e.g. cheap advance booking of railway tickets)
- People can find work opportunities with online searching.
- Socially isolated people can make friends and build a support network for themselves as part of an online community.

Teaching tip

Use the "60 seconds guide" activity at the RGS-IBG website:
<http://www.21stcenturychallenges.org/60-seconds/what-is-the-digital-divide/>

Specification advice

Edexcel Unit 2 **unequal spaces** and **rebranding places** topics provide plenty of scope for centres to examine digital exclusion as a key contemporary problem that requires innovative solutions.

One study also suggested that the UK government would save nearly one billion pounds every year if each of Britain's 10 million non-users of the internet made greater use of local government e-services.

Reasons for digital exclusion

What are the reasons why so many people do not make any use of the internet, either for work or other economic and social reasons? Possible suggestions include:

- **Affordability** Not everyone can afford to get online (although the costs are much lower than they used to be. Many people who *can* afford to purchase a PC wrongly *perceive* that they cannot).
- **Accessibility** Some remote rural areas do not have a reliable and fast broadband connection. Some people may experience personal difficulties gaining online access, for instance due to disability.
- **Motivation** Many people are unaware what the internet can do for them (such as helping socially isolated people to become part of online communities). They do not identify a personal *need* that the internet will help them meet.
- **Skills** Although the skills needed to use a PC and the internet are not difficult to acquire, older people may fear that they will fail to "get along" with the new technology.
- **Moral panic** Because the internet has some negative associations with, for example, paedophiles approaching children in social networking sites, some people view online activities with suspicion (The video clip of Tanya Byron's presentation deconstructs this argument in some detail).

Key terms

Digital divide Some people do not have the means to access online information and services. A further distinction can be made between people who have access to fast broadband internet services; and those who use less reliable and slower dial-up services using a computer modem.

Moral panic A term used to describe intense media and popular concern with the imagined corruption and / or exploitation of young and vulnerable people by a new trend or technology.

Access modes and payments

It is not just a question of either "having" or "not having" access to digital communications technology that determines the level of digital inequality found in a society or place. A more subtle "digital divide" also exists between people who are dependent on un-metered ("always-on") technologies and metered, "pay-as-you-go" or battery-dependent access technologies. Payment options must therefore also be considered in addition to the more fundamental conception of a divide between "haves" and "have-nots" across a wide range of possible access modes.

Access mode	Key issues
Home access	Household penetration by the Internet now stands at 67%. However, this figure conceals more than it reveals. Data transfer capability and frequency of use vary greatly between households. Amongst Britain's elderly, 39% of over-65s lack access. Also, some 3 million homes have a broadband service the government thinks is too low (lower than 2 MB/sec).
Community shared access	The prohibitively high cost of computing in the 1990s led to a "kiosk" model of local access gaining popularity with local government and enterprise companies. Enthusiastic promotion of telecottages in the Highlands and Islands was followed by support for village hall internet terminals. Libraries have played a key role as local providers. Schools are an important place for children from low-income families to gain internet experience.
Mobile phone and laptop access	Most of the UK's adult population now uses a mobile phone. However, the figure is much lower for the most elderly cohorts, while studies show that many people limit usage to reduce costs by sticking to pre-pay options and often turning their phones off. "Pay-as-you-go" customers are less likely to use their mobiles to gain internet access (or pick up emails). Mobile broadband could become an important way of getting fast internet access into rural areas that lack a good landline service.
Work access	Nearly all small businesses are likely to have broadband and are "always-on" organisations that are easily contactable by email during business hours. But some businesses in remoter rural areas may still be less likely to have access to broadband which their employees can use for personal reasons during breaks or after work.
"Proxy access"	A typical non-user of the internet is aged over-50. However, such individuals often ask others to act as a "proxy user" if they have a good reason (perhaps asking their children to work the technology). Survey data show that 6% of non-users have had someone make a purchase online on their behalf, 7% to send an email and 13% to find information.

Table 1: Internet access points for people and communities

Tackling social digital exclusion

As we have learned, some people suffer from **involuntary** social exclusion. The elderly, the infirm and the blind may not be able to interface effectively with computer keyboards, email or text messaging systems. There also remain barriers to education in ICT, such as lack of English reading skills and **technophobia** (of the 39% of retirees not using the internet, the figure rises much higher for those without good educational qualifications). Where people have an irrational fear of finding the internet "too hard" to use, research suggests that this fear is best tackled through the provision of **peer-to-peer** assistance (when training is provided by people's local friends rather than experts).

There are also additional barriers to computer use for learners who are visually or hearing impaired. However, specialist adaptive hardware and software is now available (although the additional costs may have to be borne by the consumer).

Of course, it does not automatically follow that new technologies will be willingly adopted by potential users.

Teaching tips

The digital divide is a useful concept to introduce to teaching about either **urban or rural decline** and also possible solutions to these problems. Lack of access to digital services can deter in-migration to an area or can impede economic progress.

Overcoming **digital exclusion** is often a key element of any contemporary geographical strategy aiming to bring economic regeneration to an area.

Some people will always remain **voluntarily** excluded. Several million of the British population – across all age groups - may well be exercising their choice not to use the internet, even though they have home, work or shared facility access.

Main activity

(2) Bridging the rural-urban divide

Digital Subscriber Line (DSL) **broadband** technology has recently revolutionised access to telecommunications services. In the 1990s and early noughties, many homes gained internet access using a dial-up **modem**. Data speeds were typically limited to 33 KB/s (meaning it took around one minute to download a large photograph). With broadband technology, speeds of between 100 and 1000 times faster (i.e. reaching several mbps data download speeds) are now quite common. Although the UK is ranked as a “slower” nation overall (with an average advertised 10 MB/s compared with rates of 80 MB/s in South Korea and even higher in Japan)

High broadband bandwidths allow for a range of new applications to be developed, in particular applications which rely on high quality video images, such as TV “on demand” applications such as BBC’s iPlayer. The BBC and BT are currently working together on Project Canvas which they hope will bring most TV into people’s living rooms via the internet in the future. Broadband access is essential for this. Students can find out more about this:

[BBC Q&A: Project Canvas](#)

The uneven geography of rural broadband services in the UK

Access to broadband services in remoter rural areas of the UK is still patchy. Access for homes is dependent on British Telecom (BT) fitting out its local exchanges to support fast broadband services. Economics of scale suggest that DSL upgrades for many local exchanges in remoter areas will never be commercially viable, and that some degree of state aid assistance is needed. This is a worry for areas where tourist **rebranding** schemes are required or where more **counterurban** migration needs to be encouraged to offset youthful out-migration.

BT originally set its targets to be as low as 150-200 users in some rural community areas before the service would become commercially viable.

When this target is not met, a variety of government initiatives exist to help bring broadband to such areas.

At the start of 2010, the government was even planning to tax all UK households 50p per month to help pay for universal broadband. However, any “broadband tax” is subject to a possible change of during 2010. Students can read more about this proposal [BBC Broadband tax condemned as 'unfair' by MPs](#)

Even with government financial assistance, deployment of DSL broadband technologies may still be constrained by technical matters in some very remote rural locations, especially isolated islands or peninsulas. In the UK, for example, only 70% to 90% of rural lines are actually capable of delivering the kinds of high-speed broadband data transfer rate found in major urban areas. This is because the final journey that internet data makes into people’s homes uses the copper telephone wire that runs from a street cabinet. In some cases the copper wire is not able to carry a large amount of data, even in some urban areas. The ideal

Key terms

Rebranding Developing a place to reposition its image and change people’s perception of it; helping sell a place’s tourism services to a new target audience.

Local champions Key local players who are involved in bottom-up efforts to attract top-down investment to a place. The actions of local champions have been crucial in securing broadband investment by BT for some remote rural areas.

situation would be to run a high speed fibre optic cable direct to everyone's homes – but this would be extremely expensive to do.

Other options

Wireless internet options do exist for very remote communities. 3G higher spectrums (principally 26–28 GHz and potentially 40 GHz in the UK) can easily package voice and data in its delivery. Coverage per base station at 28 GHz is around 13 square kilometres and bandwidth of up to 11 MB/s can be provided. Even with this technology, broadband wireless solutions will not be technically suitable for all locations, depending on the local topography. The key requirement for **WiFi** technology is for (near) line-of-sight access from the customer to the base station.

Other options for digital delivery include:

- **Mobile services** The potential for the delivery of effective internet access using this service is high given that most of the adult population possess a mobile. However, many lower-income users may not be able to afford a mobile internet service, preferring simple pay-as-you-go options for calls and texts only.
- **Digital television and radio** The majority of households have adopted a digital television through which they receive programming delivered by a cable television network, a satellite receiver or free-to-air broadcast. Both satellite and free-to-air systems currently provide interactivity within the system. However, the data being transmitted on the back channel is currently low volume, comprising simply of command and information requests. In the future this is likely to improve though.

Fostering rural access

Where access to new ICT media remains low (either socially or geographically), how might greater uptake be fostered ahead of market forces? There are various strategies employed by branches of central and local government and NGOs to drive uptake and these include:

- *Taskforce campaigning* There is no shortage of schemes currently underway to foster greater uptake of both internet and more specifically broadband technology. Notable examples include: The UK Broadband Taskforce set up by the DTI and OGC (Office of Government Commerce) aims to help central government honour its commitment to deliver a much wider variety online services. Wired-up Communities (WuC) was launched back in 2000 by what is now DCFS with £10m funding to investigate how the digital divide could be bridged by enabling communities to use ICTs to access jobs, learning services, government and other services. Today, the Digital Inclusion initiative plays a big role. The government aims to have the whole nation online by 2012!
- *Local champions* Canvassing for broadband at a grassroots level has brought great success in some remoter / low population density regions. In 2003, BT upgraded internet services in some rural areas after “grass-roots” demand was demonstrated (Todmorden was the first, after 200 locals registered interest). Details of grass-roots campaigns underway, current registered levels of demand and contact details for a chairperson acting as a “local champion” for each exchange are listed at BT’s web-site.

Teaching tip

Stressing the role of **local champions** is a good way for students to impress examiners when they are writing about strategies to overcome problems in rural or urban areas. Local players are involved in **bottom-up** governance and this contrasts well with **top-down** strategies developed by government agencies. Local champions for broadband also help form a **public-private partnership** where they are working alongside BT, a major private sector player.

Plenary

Is internet access as important as other services?

In France, internet access is a right. In Finland, a law has also been passed. So should broadband access become a right for all UK citizens? The UK telecoms regulator, Ofcom, currently places requirements on BT which help to ensure the universal provision of *some* telecommunications services across the country. These are:

- *The universal service obligation* BT is obliged to offer basic voice telephone service to all customers at standard tariffs regardless of location. Ofcom has considered, but so far rejected, the notion of extending the universal service remit to include broadband access.
- *The requirement for geographically averaged tariffs* According to this requirement, BT must make its commercial services available at the same price to consumers everywhere in the country, even though in remote and sparsely populated areas such as the Highlands and Islands BT's running costs are considerably higher.
- The government has recently made a *universal service commitment* to try and provide get broadband to everyone by 2012. But this is not as legally binding as its *obligation* to provide telephone

Students should end their lesson by considering whether they agree that broadband access should be a guaranteed right for all people in all places within the UK. The supporting *Word* document will help shape a brief 5-minute discussion where students can compare the need for broadband with the need for other services such as schools and healthcare.

Teaching tip

There is good overlap with **Citizenship** studies here. If your A-level students studied Citizenship at GCSE level, they should be very familiar with the concept of rights and responsibilities.

Teaching tip

For an up to date look at what the UK government is saying about broadband access and availability also visit:
http://www.culture.gov.uk/what_we_do/broadcasting/6216.aspx
And also:
<http://www.guardian.co.uk/technology/2009/jan/29/digital-britain-broadband-houses-2012>