

Literature review to inform the future digitisation of Jobcentre Plus service delivery

by Grahame Whitfield, Kim Perren, David Stuart
and Michael Norris

Department for Work and Pensions

Research Report No 679

Literature review to inform the future digitisation of Jobcentre Plus service delivery

Grahame Whitfield, Kim Perren, David Stuart and Michael Norris

A report of research carried out by Centre for Research in Social Policy (CRSP) on behalf of the Department for Work and Pensions

© Crown Copyright 2010. Published for the Department for Work and Pensions under licence from the Controller of Her Majesty's Stationery Office.

Application for reproduction should be made in writing to The Copyright Unit, Her Majesty's Stationery Office, St Clements House, 2-16 Colegate, Norwich NR3 1BQ.

First Published 2010.

ISBN 978 1 84712 805 8

Views expressed in this report are not necessarily those of the Department for Work and Pensions or any other Government Department.

Contents

Acknowledgements	v
The Authors.....	vi
Abbreviations.....	vii
Glossary of terms.....	ix
Summary	1
1 Introduction.....	7
1.1 Aims.....	7
1.2 Structure of the report.....	8
2 Future projections of online use and technological developments.....	9
2.1 Recent changes in internet access and use.....	10
2.1.1 <i>Fixed line internet access</i>	10
2.1.2 <i>Broadband access</i>	11
2.1.3 <i>Mobile devices</i>	13
2.1.4 <i>Future trends</i>	16
2.2 Internet use and the 'digital divide'	18
2.2.1 <i>Frequency and nature of internet usage</i>	18
2.2.2 <i>The digital divide</i>	19
2.3 The trend towards convergence.....	21
2.3.1 <i>The coming together of devices</i>	21
2.3.2 <i>Providing services on multiple platforms</i>	22
2.3.3 <i>The move to de-centralised service provision</i>	25
2.4 Key points	26
3 Public expectations of e-Government and the barriers to participation	29
3.1 Attitudes towards and experience of UK government websites	30
3.1.1 <i>Experience of website design and functionality</i>	30
3.1.2 <i>Sharing information online and expectations</i>	32

3.2	The customer 'appetite' for migrating to online services.....	35
3.3	The role of IT in people's lives and obstacles to online use of services.....	38
3.4	Key points	41
4	The experience of e-Government international and in 'leading edge' organisations	43
4.1	Developments in online service provision in private organisations.....	44
4.2	The international experience of e-Government.....	47
4.2.1	<i>Canada</i>	47
4.2.2	<i>The United States</i>	49
4.2.3	<i>Singapore</i>	49
4.2.4	<i>UK e-Government</i>	50
4.3	Comparing the provision of online services	55
4.3.1	<i>Comparing e-Government services internationally</i>	55
4.3.2	<i>Rating the UK in a global context</i>	57
4.3.3	<i>Comparison of UK Government with private sector provision</i>	59
4.4	Delivering effective e-Government	60
4.5	Key points	63
5	Conclusion.....	65
5.1	Responding to online access and technological developments.....	65
5.2	Responding to customer expectations and addressing barriers to participation	68
5.3	Learning the lessons from business and international e-Government in the UK context	70
5.4	Comment.....	72
	References	75

List of tables

Table 2.1	Percentage of households with internet connection, by country and region.....	10
Table 2.2	Where adults have accessed the internet	11
Table 2.3	Projected number of internet users in the UK 2008-2013.....	16
Table 4.1	Direct visits to www.directgov.uk only.....	52

List of figures

Figure 4.1	Use of online government services.....	53
------------	--	----

Acknowledgements

This research was commissioned by the Department for Work and Pensions (DWP). We would like to acknowledge the guidance of the project's research officers, from Jobcentre Plus.

Within Centre for Research in Social Policy (CRSP), Viet-Hai Phung, Jacqueline Beckhelling and Matthew Padley contributed towards this review while Rebecca Hand provided administrative support.

From elsewhere at Loughborough University we were advised by Leela Damodaran and Wendy Olphert from the Department of Information Science and Graham Murdock from the Department of Social Sciences.

The Authors

Grahame Whitfield is an Assistant Director at Centre for Research in Social Policy (CRSP). He joined CRSP in 2008 after spending most of his career working in policy research within government. He is interested in a broad range of social policy issues around disadvantage and equality, but his main area of interest is in research on the position, experiences and aspirations of disabled people.

Kim Perren is a Research Fellow at CRSP. She specialises in survey research methods and the secondary analysis of national and international datasets. Her research interests include the spatial distribution of deprivation as well as life course transitions and social exclusion. She has worked on a number of research projects which investigate the potential impact of social policies on vulnerable social groups.

David Stuart is an independent web analyst and consultant. He is also an honorary research fellow in the Statistical Cybermetrics Research Group at the University of Wolverhampton, where he previously worked as Web 2.0 Research Fellow after gaining his PhD in the field of webometrics. He writes for a number of professional library and information science journals about web technologies and open data.

Michael Norris is a Research Associate in the Department of Information Science examining the role of knowledge sharing in the voluntary sector. In earlier work, his research has focused on the use of citation metrics in the evaluation of scientific achievement and he has a persistent interest in the development of the information society, particularly through the use of the internet and telecommunications.

Abbreviations

API	Application Programming Interface
CEG	Consumer Expert Group
DBIS	Department for Business, Innovation and Skills
DCLG	Department of Communities and Local Government
DCMS	Department for Culture, Media and Sport
DfES	Department for Education and Skills
DWP	Department for Work and Pensions
EI	Employment Insurance
HDTV	High Definition Television
HMRC	Her Majesty's Revenue & Customs
GIS	Geographic Information Systems
GOL	Government Online
IB	Incapacity Benefit
IS	Income Support
ISP	Internet Service Providers
IT	Information Technology
JSA	Jobseeker's Allowance
LLU	local loop unbundling
Mbps	Megabits per second

MEIO	My Employment Insurance Information Online
NAO	National Audit Office
ONS	Office for National Statistics
SMS	short message service
SOCA	Serious Organised Crime Agency
USC	Universal Service Commitment
VoIP	Voice over Internet Protocol

Glossary of terms

2G	Second generation wireless telephone technology. Benefits of 2G networks over their analogue predecessors included greater efficiency on the spectrum allowing for far greater mobile phone penetration levels and the introduction of mobile data services for mobile, e.g. SMS text messages.
3G	Third generation wireless telephone technology. Allows for the simultaneous use of speech and data services and higher data rates.
4G	Fourth generation of cellular wireless standards. Currently in development, these services are trialling data transfer rates 20 times faster than current 3G services.
DSL (Digital Subscriber Line)	A medium for transferring data over a phone line.
ISP (Internet Service Provider)	A company that provides customers access to the internet.
Mbps (Megabits per second)	A measure of data transfer rate, with higher rates necessary for the streaming of data intensive products and services, e.g. approximately 0.3 – 0.7 Mbps is required for standard video on the web, whereas 2 – 4 Mbps is required for High Definition Television.

Multi-play device	A device capable of providing services traditionally warranting separate devices. For example, smartphones can increasingly provide the services of a telephone, a TV and a PC.
Perpetual beta	A term used to describe either a system or a piece of software which remains in the development stage for an extended or even indefinite period of time.
Platform/multi-platforms	A platform refers to the hardware and software framework that allows software applications to run. Software may be referred to as running on multiple platforms if it can run on more than one platform, e.g. a social network application that can run on both Facebook and MySpace.
Platform free	The publishing of raw data rather than within a format that is restricted to a limited combination of hardware or software frameworks may be said to be platform free.
Semantic web	Is an evolving development of the web in which the meaning (semantics) of information on the web is made explicit in such a way as to making it possible for machines to process it.
Universal Service Commitment (USC)	A plan put forward in the Government's Digital Britain report which aims to improve the provision of broadband internet speeds supplied to UK Households. Since writing this report, the new Government has changed the time frame for meeting the Universal Service Commitment from 2012 to 'within the lifetime of the current parliament' (i.e. by 2015).
USB dongle	A small piece of hardware that connects to a laptop or desktop computer via the USB port and provides wireless access to the internet over a 3G connection.

Web 1.0	A term used retrospectively to describe the web before the advent of web 2.0. Web 1.0 refers to the primarily one way communication process which was characteristic of certain sections of the early web: a single person or organisation was usually responsible for publishing content, which would be read and not commented on by many people.
Web 2.0	Is a term used to describe sites that encompass certain characteristics such as user as producer, collective intelligence, and perpetual beta. Characteristics epitomised by sites such as Flickr, YouTube, and Google.
WiFi (Wireless Fidelity)	Refers to wireless networking technology that allows computers and other devices to communicate over a wireless signal.

Summary

One of the stated priorities for Jobcentre Plus in 2011/12 is to work towards delivering more of its services online and in formats that enable customers to access them by a range of means (Jobcentre Plus, 2010). This review was commissioned to provide Jobcentre Plus with an evidence-based foundation to help it meet this aim. In particular, it aimed to provide help to Jobcentre Plus in its thinking about how it might:

- understand and respond to the current and projected levels and means of access to the internet in the UK (see Chapter 2);
- improve the 'customer appetite' and willingness to use the internet, particularly among its customers who are potentially digitally excluded (see Chapter 3); and
- learn lessons from the way in which online services have been provided by 'leading edge' organisations and the way in which e-Government has developed internationally and is developing in the UK (see Chapter 4).

This summary highlights the key issues emerging from the review and concludes with an indication of some of the possible implications for Jobcentre Plus to consider as it develops its strategy for digitisation over the next few years. The summary is structured thematically in line with the main body of the report.

Internet access and technological developments (Chapter 2)

Although almost every household in the UK has access to some form of broadband, many cannot access a service that is of sufficient speed to undertake basic, mainstream internet activities, such as internet shopping. In some cases, an inadequate service relates to geography, in particular, distance from an exchange and population density; in others, internet access is hindered by the poor quality wiring. In addition to households that are, in effect, digitally excluded by the level of service available, others do not subscribe to an internet service for a variety of reasons, including cost and lack of information technology (IT) competence. As a consequence, there remains considerable geographical and socio-demographic variation in internet usage. One notable trend over the last three years is that

Scotland has fallen well behind England and Wales with regard to the percentage of households with internet access (see Table 2.1); this possibly reflects the interaction of geographic and social factors. Lack of access is possibly the most significant issue for public services (including Jobcentre Plus) in planning for the provision of online services.

If delivered, the UK Government's adoption of a Universal Service Commitment (USC) to pursue the provision of universal broadband access of two Megabits per second (Mbps) by 2012¹ (Department for Culture, Media and Sport (DCMS) and Department for Business, Innovation and skills (DBIS), 2009) should make internet access available to the vast majority of households. This should allow public services to extend both the range and sophistication of their digital services.

Even with increased access, some groups will remain less likely to use the internet for the foreseeable future, most notably older people. It is anticipated that the number of Jobcentre Plus customers (and potential customers) who are unable or unwilling to use online services will diminish over time as younger, more IT literate cohorts move through the system; however, there is a risk that those who remain unable to use the internet competently may become increasingly disadvantaged as internet access to government services becomes the norm. Provision such as training through UK online centres and other agencies will continue to have a key role to play in increasing computer literacy and confidence. This is as important an element in addressing the 'digital divide' as the provision of access itself.

Technological developments are also rapidly transforming the landscape in which people access the internet. In recent years, there has been a substantial increase in the number of internet-enabled mobile devices (such as smartphones, netbooks and laptops) offering flexible, fast and widespread access. A parallel development is the advent of digital technologies that allow people to access internet-based services via devices such as games consoles and internet-enabled televisions. Currently, there are limits to the capacity of many internet-capable mobile devices; in addition, ownership of internet-enabled televisions is limited and they are currently expensive. However, over time, they are likely to provide public services with further scope for the 'mainstreaming' of provision of online services. Internet-enabled televisions, in particular, may appeal to more cautious and less computer literate customers. This said, the issue of cost is likely to remain a key issue for many.

Technological changes provide an unprecedented opportunity for public services to embed services in users' everyday lives rather than them remaining a discrete area of activity. However, they also present considerable challenges to the way in which public service organisations such as Jobcentre Plus currently operates. The projected increasing number of devices and 'platforms' on which people will

¹ Since writing this report, the new Government has changed the time frame for meeting the Universal Service Commitment from 2012 to 'within the lifetime of the current parliament' (i.e. by 2015).

access the internet means that it will become less realistic over time for Jobcentre Plus to be able to develop and provide applications that meet everyone's needs or expectations. Indeed, the evidence strongly suggests that public services should embrace the notion that they cannot – indeed should not – try to do everything themselves. Making data available to external organisations could result in the production of a wide range of innovative applications, services and resources that would be unlikely to be developed in-house. These could augment any provision Jobcentre Plus makes itself.

Public expectations of e-Government (Chapter 3)

There is a clear and increasing demand for the option of accessing government services online. However, many users of government websites report that the experience of using such services does not meet their expectations in terms of their ability to conduct transactions online (for example by requiring a telephone or postal follow-up) or finding the information they wish to find (due to information not being presented clearly and sites being difficult to navigate). That the reality of the online experience does not always meet users' expectations can lead to confusion, frustration and ultimately disengagement. This is a clear barrier to the potential success of delivery of online public services.

As online services become more sophisticated over time in other organisations, it will be increasingly important that public services seeking to deliver their services by digital means have a clear understanding of their customers' expectations and needs, as well as a strategy for managing and – where possible – meeting them. A key means of ensuring successful delivery is for public services to have a clear understanding of how their online and digital communications link with other means of contact (telephone follow-up, letter, face-to-face meeting) and of how these linkages are explained and managed. The implications of not having this in place is the risk that, after significant investment in the provision of online services, people who try public service online provision and find them disappointing may disengage. This is a particular risk in respect of people who have been 'won over' by the provision of training and support.

An unwelcome outcome of this scenario would be that the use of more traditional services does not decrease in line with expectations as digital provision is rolled out, thus resulting in the potential cost-savings not being realised. As a consequence, it could also prevent public services from channelling resources to provide more bespoke face-to-face or telephone contact with people who will continue to require (or prefer) more 'conventional' modes of interaction, particularly for complex or 'personal' transactions.

As the internet becomes a pervasive presence in many areas of modern life, there is a risk that people who do not have access to, or the skills to use, internet-based services become vulnerable to further disadvantage and exclusion. In addition, if government services prioritise digital channels as a mode of engaging in dialogue with users about their services, the voices of the digitally excluded may not be

heard. Consequently, unless specific action is taken, the opinions of digitally excluded people will not inform the development or provision of services that are intended to support and help them. This is likely to reinforce and deepen the digital exclusion of some of the most disadvantaged.

Data security is another critical issue in relation to people using online services. Whilst there is clear evidence that many people want to be able to access public services online, it remains the case that many people have significant concerns about doing so. Concerns over the security of data provided to government and the transmission of personal data, as well as security issues surrounding storage of personal information on their own digital devices may inhibit people from fully engaging with online services. It does not seem likely that these obstacles can be overcome without government action.

Learning from the international experience (Chapter 4)

The development of online services has been driven by a relatively small number of 'leading edge' private sector organisations. The success of their provision has been characterised by a fundamental shift from a situation of 'top-down' control and provision towards an approach where: (i) customers are actively engaged in how services are planned and reviewed, and (ii) information is increasingly made openly available for external organisations to manipulate and develop innovative applications.

Traditional organisations (including public services) have been slower to begin to make this kind of provision and, where they do, to adopt the cultural values of the 'leading edge' organisations. The international evidence in respect of e-Government and 'leading edge' organisations strongly suggests that if online public services are to be successful, this kind of cultural shift – to having a detailed and ongoing understanding of the needs and preference of customers at the heart of the way in which services are planned and delivered – is essential.

The 'one-stop' or single portal model is widely regarded as the optimum means of delivering effective e-Government. This is characterised by seamless delivery of its online, phone and face-to-face services in a way that meets customers' needs and expectations (most notably in respect of the ability to conduct transactions rather than only access information). The provision of online public services in the UK has undergone a dramatic transformation in recent years. This is evidenced by the transformation of Directgov from a government 'supersite' to a unified whole-of-government portal with increasing transactional capabilities. However, the ability of individual public services such as Jobcentre Plus to innovate is clearly constrained by its relationship with Directgov. The potential for tension is inevitable. As such, many of the findings of this review as applied to Jobcentre Plus have a more general application.

UK online provision is internationally well-regarded and the UK government is noted as having the potential to move towards being a world leader in the digital

provision of data and the enabling of external stakeholders and organisations to access and use these data freely. If this potential were realised, it could aid the transformation of public services in a more rapid and innovative way than could be achieved by organisations such as Jobcentre Plus acting alone. The available evidence strongly suggests that the potential for letting users outside of the organisation access and manipulate its data would be mutually beneficial to public services and their customers as well as offering potential economic value to stakeholders who could provide additional services using this data.

Finally, a key characteristic feature of recent development in online provision is that of permanent change and development ('perpetual beta'). If UK public services such as Jobcentre Plus wish to deliver on the commitment to make the most of technology and provide world class online services, it is critical – as it is for all other administrations and organisations – that it accepts and embraces the whole concept of 'perpetual beta'. This will require that it 'makes a call' on what it aims to do and develops its services in line with the predominant current technologies and capabilities rather than holding back in case something better comes along. Having adopted a strategy, it must then work on an on-going basis with external organisations to implement change over time.

Conclusions

The overarching message from this review is that successful delivery of online services is about the adoption of values not just technologies. In order to be successful, public service organisations such as Jobcentre Plus will need to ensure they put ongoing and meaningful engagement with customers, staff and stakeholders at the heart of the development of their 'online offer'. It will also be critical that Jobcentre Plus plans to provide services at a level that is currently accessible to the majority of its customers whilst working closely with external stakeholders in a process of ongoing development, to take advantage of future technological advances. Some concrete examples of issues that Jobcentre Plus might consider in its thinking when developing its strategy for development of its online provision include:

- maintaining a balance between meeting customer expectations and needs and the financial realities of Jobcentre Plus operations will require ongoing and meaningful research and consultation with a wide range of its customers;
- it may be mutually beneficial for government and network providers to work together to ensure newer generation (in particular mobile) services are provided to rural and disadvantaged areas and to explore whether there is scope for making access to core government sites more affordable to its customers;

- if those with least experience of using online services are to be helped into education and employment or to access the benefits and support to which they are entitled – and digital exclusion is not to become more entrenched – it will be important to maintain provision of tailored support and training focused on accessing services as well as flexible affordable local access to the internet;
- some thought on how public confidence in the security aspect of engaging in online transactions with government services is needed if concerns on this issue are to be overcome. In addition to issues surrounding its own systems, this may involve provision of or raising awareness of anti-virus/spyware technology and consideration of security and accessibility on public access devices;
- working with external organisations to make data available to be manipulated in new and innovative ways to help people access training or employment could be a cost effective and flexible means of delivering online services which could release resources to meet the needs of harder to help/reach customers.

1 Introduction

In line with the ongoing development of government service delivery, one of the stated priorities for Jobcentre Plus in 2011/12 is to work towards delivering more of its services online and in formats that enable customers to access them by a range of means (Jobcentre Plus, 2010). This project takes place during an unprecedented period of technological innovation. This has been accompanied by a sea of change in the expectations of the public regarding service delivery from 'leading edge' organisations and governments alike.

1.1 Aims

This review aims to meet Jobcentre Plus's need for a firm, evidence-based foundation from which to formulate strategies for changing the means by which it provides its services. It seeks to help Jobcentre Plus:

- understand future projections of online use and developments in technology and how this may impact on the way in which Jobcentre Plus chooses to deliver its services digitally in the future;
- understand the customer appetite for the online channel, including barriers to online use and what types of transaction customers are prepared to undertake via the online channel; and
- identify and learn from best practice of online use especially from other UK government departments in addition to any international comparisons with government agencies with a similar customer base to Jobcentre Plus.

When commissioned, it was very much envisaged that this review would form a foundation for future work and potential research with Jobcentre Plus customers and employers as well as with third sector and private sector organisations concerned with training and employment. This would facilitate a more detailed understanding of the needs, requirements and preferences of Jobcentre Plus customers. This review aimed to set out the available evidence on the current situation and the likely direction of travel. This could inform Jobcentre Plus thinking on the digitisation of their services as well as give insight into what additional investigation and consultation might be beneficial.

1.2 Structure of the report

This report is organised around the overarching project aims.

Chapter 2 provides an indication of current and future projections of use of the internet and online services and of the likely developments in and use of digital technologies. In so doing, it sets the scene for the context in which Jobcentre Plus can consider how it might deliver its services digitally in the future.

Chapter 3 explores people's expectations of e-Government services, the ways in which they are prepared to use them and the barriers (real or perceived) to accessing and using the services. It aims to provide Jobcentre Plus with a clear indication of the potential customer 'appetite' for a roll-out of a digital service delivery. It also sets out some of the issues Jobcentre Plus will need to address in order to convince its customers to engage with and use any new services.

Chapter 4 reviews the provision of online services in government departments and businesses in the UK and elsewhere in order to help Jobcentre Plus to identify key issues for consideration during the development, implementation and maintenance of future online services.

Chapter 5 brings together the main issues facing Jobcentre Plus in the digitisation of its services. In order to move forward in its thinking about providing its services online it needs to consider:

- the level of access to the internet in the UK and how this will develop;
- the level of willingness to use the internet and the issues for those who are potentially digitally excluded; and
- the manner and style in which services might best be designed and delivered to their customers.

2 Future projections of online use and technological developments

Across the last decade, technological innovations have radically changed the way in which people in the UK are able to access a wide range of services and resources. This chapter reviews the literature to provide an indication of current and future projections of use of the internet and online services. It also outlines likely developments in, and use of, digital technologies. In-so-doing, it sets the scene for the context in which Jobcentre Plus can consider how it might deliver its services digitally in the future:

- **Section 2.1** shows how access to the internet has grown at a household level in recent years. It sets out where it is accessed and how well users are served by internet connections (in particular, broadband). The changing landscape of both the provision and use of digital technologies is discussed. This includes a discussion of how internet access is becoming increasingly pervasive for many and how mobile technologies increasingly allow people to access internet services while on the move.
- **Section 2.2** explores the issue of the 'digital divide' and the potential impact of this in reinforcing social exclusion and disadvantage. This may occur where individuals and communities are unable to access the full range of information and services routinely and readily available to others in an increasing 'online' society.
- **Section 2.3** explores the issue that the next few years are likely to see convergence around a smaller number of digital internet-enabled devices. It also considers how Jobcentre Plus will need to respond to a switch in approach to a more 'user generated' model of service delivery.
- **Section 2.4** highlights the key issues raised in this chapter.

2.1 Recent changes in internet access and use

2.1.1 Fixed line internet access

Figures from the Office for National Statistics (ONS) reveal that, in 2009, 18.31 million households in the UK had fixed line internet access (ONS, 2009a). This represents about 70 per cent of all UK households. In 2007, coverage was just 61 per cent. This leaves around 7.8 million households without access to a fixed internet connection.

Table 2.1 gives a breakdown of UK households with fixed internet connection according to the latest ONS figures and reveals considerable regional variation. In 2009, within England, regions in the south had higher levels of home internet connection than those in the Midlands and the north. The level of internet access in Scotland is lower than in England and Wales reflecting differing take-up rates over the last couple of years. Notably, in 2007, there was just one percentage point difference between internet connection rates in Scotland and England; by 2009, this had risen to nine percentage points.

Table 2.1 Percentage of households with internet connection, by country and region

	<i>Percentages</i>		
	2007	2008	2009
London	69	73	80
East of England	67	70	77
South East	65	74	75
South West	69	67	72
East Midlands	59	61	67
West Midlands	56	61	67
North West	56	56	67
North East	52	54	66
Yorkshire and the Humber	52	62	64
England	61	66	71
Wales	57	67	68
Scotland	60	61	62
UK	61	65	70

Source: ONS, 2009.

As Table 2.2 reveals, among people who had used the internet in the previous three months, 94 per cent had done so from their home while six per cent had not. Among recent internet users, 43 per cent had accessed it from work, 28 per cent from someone else's home and 15 per cent from a school, college or

university. Just five per cent had used a public library while six per cent had used an internet café.

It is reasonable to assume that internet access through work or an educational establishment is free to the user. As many Jobcentre Plus customers are not in work or education, these free modes of accessing the internet are likely to be denied to them. Those who have no fixed internet at home may rely on more expensive methods of accessing the internet (for example, via mobile phones) or, alternatively, face digital exclusion.

Table 2.2 Where adults have accessed the internet

	<i>Percentages</i>		
	2007	2008	2009
Home	87	90	94
Place of work	44	44	43
Another person's home	19	20	28
Place of education	12	14	15
Hotspot (Wi-Fi)	2	5	6
Internet café	4	5	6
Public library	4	4	5

Source: ONS, 2009.

2.1.2 Broadband access

Of the UK households that had a home internet connection in 2009, nine in ten (90 per cent, 16.5 million) had a broadband connection. This represents a considerable increase from 2006, where just 69 per cent of households with internet access had a broadband connection (ONS, 2009a; Ofcom, 2009b)². The use of broadband enables internet users to access and download content at far greater speeds than earlier phone line dependent 'dial-up' connections. This makes the online experience more user-friendly and conducive to engagement. Indeed, many aspects of web-sites and online applications will not now function in anything like an acceptable manner on non-broadband connections due to the increasing sophistication of web-design (in terms of graphics and security, for example).

People in the one in ten households still dependent on dial-up services may continue to have limited opportunity and/or willingness to use online and interactive services offered by e-Government. By the same token, they cannot fully experience the wider benefits of online services or resources; for example,

² These figures are lower than those derived from an ONS survey of Internet Service Providers (ISPs) which indicated that broadband connections accounted for 95.1 per cent of all Internet connections in December 2008 (the last data collection point).

shopping online, accessing social media sites such as YouTube and accessing the BBC's iPlayer (Wakefield, 2009). These activities, through regular positive experiences, may encourage people to consider using e-Government services by virtue of having increased their ability and willingness to use more generic online services.

In the UK, broadband Digital Subscriber Line (DSL) coverage is practically 100 per cent; that is to say, almost every household in the UK could have a broadband connection via a phone line. However, in some areas, the speed that can be achieved is extremely low. In 2009, the BBC estimated that three million homes were in areas where fixed line broadband speed was less than 2 Megabits per second (Mbps) (BBC, 2009c). These 'notspots' included suburban as well as rural areas.

The Universal Service Commitment (USC) outlined in *Digital Britain* aims to ensure all households, irrespective of location, have the opportunity to access a 2Mbps connection to the internet by 2012 (Department for Culture, Media and Sport (DCMS) and Department for Business, Innovation and Skills (DBIS), 2009). This level of provision would comfortably support mainstream internet activities such as shopping, banking and using social networking sites. It would also be suitable for Jobcentre Plus-related interactions such as job seeking and making online applications for jobs and benefits. It is fast enough to support the streaming of standard resolution videos but not High Definition Television (HDTV). A speed of 2Mbps would allow user engagement in the current generation of virtual worlds (for example, participation in interactive training); however, as faster bandwidths increasingly become the norm, future generations of virtual worlds may well demand bandwidths in excess of 2Mbps.

The dramatic increase in fixed broadband connections in recent years has been facilitated by the widespread roll-out of 'local loop unbundling' (LLU) infrastructure, which has enabled ISPs to install their own equipment in BT telephone exchanges and provide a range of services including telephone, broadband and TV on demand. It is estimated that these services were available to 84 per cent of all consumers by 2008, with 99.6 per cent of the population able to access DSL services (Ofcom, 2009b). This is considered to be a 'near-universal' level of provision and to be a key driver for ISPs increasingly switching their efforts from provision of broadband services per se to working towards provision of 'super-fast' broadband. These developments are, in part, a consequence of the provision of more demanding applications and services themselves creating further demand for additional bandwidth by internet users (Ofcom, 2009b).

The last set of ISP data collected by ONS indicated that the proportion of higher speed connections increased markedly in recent years. In December 2008, almost 60 per cent of broadband connections had an advertised speed greater than 2Mbps (ONS, 2009b). During 2009/10 there has also been considerable activity amongst a wide range of ISPs to provide 'super-fast' broadband services which are significantly beyond that set out as the USC of 2Mbps in *Digital Britain* – which should ensure all households, irrespective of location, will have a 2Mbps

connection to the internet by 2012, and longer-term has even greater speeds planned through its next generation fixed broadband (DCMS and DBIS, 2009).

During 2009/10, there has been considerable activity amongst a wide range of ISPs to provide 'super-fast' broadband services and, longer-term, even greater speeds are anticipated through the next generation of fixed broadband. For example:

- Virgin Media have deployed 'up to' 50Mbps fibre-based broadband. By July 2009, 50Mbps broadband was available to 12.5 million homes, up from five million at the end of 2008. The company is also piloting speeds of 200Mbps.
- BT announced plans to make its super-fast broadband available to 40 per cent of the UK (around ten million homes) by 2012, at a cost of £1.5bn and covering 1.5 million homes by the summer of 2010 (BT, 2010).

Whilst these speeds are not available to all subscribers – for example, Virgin and BT services are limited to those in cabled areas – the direction of travel is clear. The demand for, and provision of, ever faster fixed broadband connections is likely to continue in the next few years.

The Commission for Rural Communities Report '*Mind the Gap*' observes that rural areas are currently less well served with 'super-fast' broadband internet access than urban areas and many of the developments mentioned above are not a priority for major ISPs whose focus is on densely populated urban areas (Commission for Rural Communities, 2009). As such, rural areas stand to benefit from the government's USC. However, as the *Digital Britain* report (DCMS and DBIS, 2009) notes this will also benefit many people in urban areas. The lack of potential 2Mbps broadband service to 2.75 million homes is a combination of problematic home wiring (1.9 million homes), random network effects (300,000 homes), and the telephone line being too long (550,000 homes) (DCMS and DBIS, 2009). From a supplier perspective, investment in the necessary infrastructure may not be economically viable without government support (Wakefield, 2009).

A number of initiatives are in hand and/or proposed to remedy this situation, including the USC. Although this will be a clear improvement on 'dial-up' connections when implemented, it is already beginning to look somewhat dated given the speed and nature of technological development. In addition, commentators suggest it is unlikely to be delivered in some areas (ISP Review, 2009). Interestingly, in the context of a lack of ISP provision in some areas, there are an increasing number of locally-organised schemes in the UK for installing (fibre-optic) high-speed broadband networks (e.g. Bryan Glick Computing, 2009).

2.1.3 Mobile devices

Wi-Fi-enabled devices connect to fixed internet services via wireless as opposed to a cable. Within the home, Wi-Fi offers the convenience of internet access away from a physical access point. Households with home internet access are

increasingly using wireless (Wi-Fi) connections to access the internet – from five per cent in 2005 to 53 per cent in 2009 (Dutton, Helsper and Gerber, 2009).

Away from the home, Wi-Fi-enabled devices can be used to access the internet in public and commercial spaces (such as coffee shops, hotels and airports) where there are designated access points (hotspots). Commonly, the service utilises fixed broadband facilities and many places allow access for free. Wi-Fi access to the internet via hotspots could address the problem of households not having their own internet connection, although many establishments would expect users to make a purchase (such as coffee); however, in areas where fixed line higher speed broadband is unavailable, commercial establishments would face similar restrictions to local households. Some commercial operations, such as some train lines, offer Wi-Fi access to the internet via 3G mobile phone networks and satellite; however, there is often a significant charge and the level of service may be variable (Guardian, 2010).

Laptops and netbooks are also able to directly access the internet using 3G+ mobile phone networks (i.e. without recourse to hotspots) either through inbuilt 3G capabilities or via a USB dongle. Compared with a fixed line, accessing the internet via a mobile phone network is more expensive unless usage is so rare as to make paying for a fixed line uneconomic. The recent development, and increasing popularity, of low-cost netbooks places mobile internet usage even more in the mainstream – rather than it being the preserve of the select few.

Internet-enabled mobile phones have become commonplace over a relatively short amount of time. Some 89 per cent of the UK adult population own a mobile phone with the **potential** to access the internet (Ofcom, 2009a; Dutton, Helsper and Gerber, 2009) although the internet services accessible by older handsets are likely to be rudimentary. One estimate of the number of people who regularly browse the web using their mobile phone is 10.4 million (Nielsen, 2009). This reflects the increasing use of internet-related applications between 2007 and 2009 among mobile phone users (from nine per cent to 24 per cent) (Dutton, Helsper and Gerber, 2009).

The owners of mobile phones pay for services principally by a contract (which may vary in length) or on a pre-pay basis (where credit is bought in advance). Pre-pay allows customers to have greater control over the costs they incur, although this tends to be on more expensive tariffs. Customers with a contract have certainty of costs but also incur a fixed expense irrespective of their usage. Between 2007 and 2009 there was a sustained increase in the proportion of mobile phone users holding contracts (from 34 per cent to 42 per cent) (Ofcom, 2009a). This was primarily due to changes in the practices of users under the age of 45.

The increase in the number of people accessing the internet through handheld mobile devices means that concerns that some households 'lack' a home internet connection may not be as salient as they were only a few years ago. Potentially at least, they now have equal access to the internet – albeit at greater expense.

This raises the issue that recent developments in internet accessibility are possibly overtaking the development of and implementation of policy in this area.

Internet enabled devices that utilise mobile networks currently operate through what are known as either 'second' or 'third generation' services (2G or 3G), with the prospect of 'fourth generation' services offering even greater access speeds and functionality. In the case of 2G 98 per cent of the UK population is covered by at least one of the network operators. In the case of 3G, at least one operator covers 87 per cent of the UK population; in many cases, however, there is multiple coverage (Ofcom, 2009a). As such, the ability of people to access the potential of the mobile internet is directly affected by the type of device they own and the area in which they use it.

People accessing 3G (or 3G+) services through their mobile device are likely to be able to access a greater number of online services, with greater speed and reliability) than those with 2G devices or those who are in areas without 3G network coverage. People with access to 2G service only are limited by the speed with which they can access the internet and the amount of data that can be readily downloaded. In particular, lack of access to 3G services limits opportunity for interactivity. The extent to which services will move to a national 3G network is dependent on the network providers. As in the case of the provision of broadband via land-line connections, the issue of whether it is economically viable to make the necessary investment without government intervention is clearly an important one in less densely populated areas. The future provision of services which require reliable and fast mobile internet access needs to be considered carefully. There is the potential to reinforce the exclusion that exists in respect of fixed land-line broadband access, particularly in rural and less densely populated areas and amongst people on limited incomes.

Whilst there are a great many 'smartphones' on the market, the now familiar Apple iPhone in particular has popularised the introduction of *'mobile phones that run a high level operating system, capable of running multiple programs or applications simultaneously much like a computer'* (Nielsen, 2009). These devices allow for routine mobile access to the internet and its online resources in a way that is beginning to be comparable to that experienced on a PC.

While the potential of this technology for real time engagement with digital services is considerable, the cost of these types of devices and the contracts that are associated with them currently means they are not generally available to all. However, if recent technological trends are anything to go by, it seems inevitable that the cost of these devices will fall as newer, faster models are developed. This said, Jobcentre Plus ought not to develop applications and services that assume that the capability of these devices will be generally available to their customer base in the short to medium term.

2.1.4 Future trends

Although they provide an indication of the direction of travel based on previous trends, National Statistics do not provide any projections of the likely take-up of internet and broadband over the next few years. Available data is generally from industry and marketing sources, the provenance, robustness and comparability of which are often difficult to ascertain. Industry sources suggest that overall UK internet uptake will continue to increase over the next few years and be around 43.7 million (70.7 per cent of the population) by 2013 (WSI Internet Market Trends Report 2009; eMarketer, 2009). This estimate, based on eMarketer analysis, is based on growth along the following lines:

Table 2.3 Projected number of internet users in the UK 2008-2013

2008	38.1 million
2009	39.4 million
2010	40.6 million
2011	41.7 million
2012	42.8 million
2013	43.7 million

Source: eMarketer, 2009.

The context for these figures is that recent years have seen the level of home internet access approaching 'saturation' point. Although much of the discussion in *Digital Britain* is around making broadband internet access available to all by means of affordable and 'high speed' fixed connections, it is thought that this downward trend will continue, albeit slowly, over the next few years and that the area for increased growth in internet access is via mobile devices (Ofcom, 2009a).

It would seem that whilst some growth in internet access (and broadband in particular) may result from the Universal Service Broadband Commitment announced in *Digital Britain*, most future growth in internet access is likely to be via the gradual increase in the availability of internet-enabled mobile devices. As already noted, the current generation of smartphones and similar devices allow increasingly easy access to the internet and, with an ever-growing range of applications which can be downloaded, they are making accessing a wider range of services and information over the internet relatively easy, in an ever increasing range of formats and on a wide range of devices.

Reflecting a global trend (Mobile Magazine, 2010), smartphone sales in the UK accounted for a sizeable minority (16 per cent, 1.23 million) of all sales of handsets in the first quarter of 2009 (Ofcom, 2009b). Expectations are that these devices will represent an increasing proportion of the market over time. However, whilst the increased uptake of smartphone and mobile computing technology in a short space of time is impressive, this does not represent the quantum shift in the landscape implied by some sections of the media. It is still the case that

smartphones account for only one in seven (about 6.2 million) mobile phones in the UK, with the majority of mobile phone owners still using their 'standard feature' phones (non-smartphones) for what are now fairly routine activities like email and texting (Nielsen, 2009).

What is clearly evident, however, is that a gradual transition from fixed to mobile computing is taking place and is set to continue. The demarcation between mobile phones and desktop computers has become blurred with the multi-functioning smartphone, laptops and netbooks able to use mobile internet technologies on a broadband basis, thus enabling them to access internet services previously associated with a desktop computer (Seka, 2010). To the extent that it is possible to predict with any degree of certainty, it would seem that the growth in the uptake of smartphone (and its associated) technologies is likely to be steady rather than transformational over the next few years. For example, Seka (2009) predicts that smartphones will account for the majority of multi-play devices over the next five years, with Gartner (2009) estimating that by 2012 they will make up 37 per cent of the global handset market.

Another aspect of the current areas of development for mobile internet access is that O₂ started trialling 4G mobile services in Slough in December 2009. These aim to provide a peak broadband speed of 150Mbps (O₂, 2009). This speed – if achieved – is considerably faster than most people can currently access through their home broadband connection and has potential implications for the types of services that people will be able to access via the mobile internet in the areas that this service becomes available.

There is, of course, a significant caveat attached to the notion that the switch to mobile internet (and in particular, the faster connections) will continue to increase at the current pace. Whilst mobile broadband can alleviate the need for landline connections, they are currently generally more (often considerably more) expensive than landline broadband services, especially for those who are making use of 'pay as you go' mobile phone connections or USB dongles where a user may be paying as much as £10 for a 1GB allowance. To set this in context, a 1GB allowance would allow the user to access the internet for about 40 hours (this, of course, depending on the type of transactions that were conducted, the sites they accessed and the amount of data they downloaded) (Argos, 2010).

Therefore, whilst mobile services that require broadband may be increasingly technologically feasible, they may be prohibitively expensive for certain sections of the community such as people who are without jobs, in receipt of benefits or living on limited budgets. People in these circumstances may find mobile broadband remains an expensive way to access the internet when compared to a fixed line broadband connection based in their home or other place of access. However, current trends seem to imply that the lack of a regular financial commitment will perpetuate the increase in 'pay as you go' mobile internet access by those with limited budgets. From a Jobcentre Plus perspective, this is relevant in that, for example, people looking for work can only access internet resources/services

in line with the funds they can afford to spend (if accessing core government websites or receiving information from Jobcentre Plus continues to form part of their data usage allowance). As such, there may be scope for Jobcentre Plus to consider how these barriers might be overcome by working with mobile service providers.

2.2 Internet use and the 'digital divide'

2.2.1 Frequency and nature of internet usage

Not all people with access to the internet regularly use it, or indeed use it at all. Neilson online estimate that there were just under 30 million 'active' internet home users in the UK in June 2009 (quoted in Marshall, 2009). This figure is comparable with the ONS estimate that, in 2009, 27.3 million adults within the UK are 'regular users' (defined as people who accessed the internet **every day or almost every day**). ONS estimates that 37.4 million adults were 'recent users' (this defined as those who accessed the internet in the three months prior to interview) while about 10.2 million adults in the UK had never used the internet (ONS, 2009a).

It is important to distinguish between the people (and households) who are currently active, recently active and inactive if Jobcentre Plus is to understand the possible implications of providing services online. This is irrespective of whether services are to be accessed at home/from fixed connections or via mobile devices. Chapter 4 discusses issues around the 'appetite' for use of online services and the barriers to engaging with digital service provision. However, there are some striking differences in the extent and nature of internet usage amongst different groups of people.

Among internet users, age tends to define the frequency with which adults access the internet; compared with younger age groups, older people are less likely to use it (at all or on a regular basis). Perhaps unsurprisingly, the most frequent users are those aged 16-24, where almost nine in ten (86 per cent) access the internet on a daily or almost daily basis. This compares with around half (52 per cent) of those aged 65 plus, who are the least frequent users. This said, some data indicate that internet usage amongst older people is increasing (ONS, 2009a) and that the rate of use will continue increase over time (Dutton, Helsper and Gerber, 2009).

Gender differences in the rates and age profiles of adults accessing the internet have largely disappeared in recent years, with access rates now being almost the same for men and women. However, there are notable differences in the services that men and women access. For example, men searched more frequently for information related to news (78 per cent compared to 71 per cent), sports (75 per cent compared to 41 per cent), and humorous content (50 per cent compared to 37 per cent) than women. In contrast, women searched more frequently for health issues (73 per cent compared to 37 per cent) (Dutton, Helsper and Gerber, 2009). Whilst difficult to transfer to the context of Jobcentre

Plus services, the issue of gendered preferences for internet use is something that is worthy of more specific research to ensure services are delivered in a way that engages both men and women.

Overall, there is little difference between people from minority ethnic populations and the total UK adult population in the take-up of information technologies (ITs). The data indicates that take-up and use of IT follows similar lines to those of the general population with age, income, inclination and wellbeing being decisive factors. That is, there has been a decline in the use of fixed landline services, but an increase in mobile phone, desktop computer ownership and internet access at home, which is in line with population as a whole (Ofcom, 2008; Ofcom, 2009a) – this similar to the situation in other European countries (Diminescu *et al.*, 2009).

The changes in the rates of internet use and the way in which it is being used is thought by some to reflect that a growing number of users' experience and expertise is being consolidated over time and that early differences may have reflected willingness or ability to adopt and access the technology or to engage with the services that were available. For example, the number of users with seven or more years' worth of experience of using the internet has doubled since 2003 (Dutton, Helsper and Gerber, 2009). Hence it would seem reasonable to argue that the number of competent and skilled users will progressively increase through successive age cohorts along with their propensity to access, and expertise in accessing, digital services. It also seems reasonable to assume that users' demands of services will increase over time given their increased exposure to the broad range of services and resources now available online. Understanding these expectations will be particularly important for Jobcentre Plus if it is to know how best it can engage and enthuse its customers to actively use the services and resources it may make available in future.

2.2.2 The digital divide

A 'digital divide' occurs where different sectors of the population have limited or no access to the internet and the resources that it can offer, or whilst having access, have limited knowledge of how it can be used (OECD, 2006). Users may not wish to engage with IT; alternatively (or additionally) their capacity or propensity to use the internet may be hindered by social or economic factors, health issues or difficulty in access (which can include poor design) (Dutton, Helsper and Gerber, 2008). Given the nature of its customer base, this is a particularly important issue for Jobcentre Plus to consider and also investigate means by which access and usage can be improved.

Above and beyond the regional differences already discussed, there is clear evidence of a digital divide in terms of income and socio-economic status; people in the highest income category are more than twice as likely to use the internet as those in the lowest income group. Similarly, the greater people's educational attainment, the more likely people are to have used the internet and to be more conversant with what it can offer them. A powerful indicator of this is that,

whereas around half (49 per cent) of people who completed their education at secondary level report using the internet, this compares with almost all (93 per cent) of those who undertook higher education (ONS, 2009a).

Given the increased likelihood of Jobcentre Plus customers having limited/low levels of qualifications and a history of working in semi/unskilled occupations, this is a matter of particular concern for Jobcentre Plus. This relates to the development of online services in two respects: (i) the lower level of internet access, and (ii) the likely low levels of technical literacy amongst its customer base should efforts to increase access amongst these groups be successful.

There are other issues which impact upon the ability and willingness of people to access internet-based services relating to health status and in respect of certain types of impairment (Dutton, Helsper and Gerber, 2009). However, it is important to recognise that not all barriers to usage and participation lie with the person; rather, accessibility needs to be considered an integral issue in respect of the design of all aspects of any future 'online channel'. It will clearly not be acceptable for people to be encouraged to engage with a service only to find that some aspects of it are not accessible to them; in some circumstances, it could contravene the provisions of the Disability Discrimination Act 2005. If Jobcentre Plus customers are, in effect, denied access to the resources and information they need to find training or work it may be increasingly difficult for Jobcentre Plus to meet its objectives.

There are a number of initiatives currently in place or planned that aim to improve access and use of the internet. For example:

- families who are on income support or who are claiming Jobseekers' Allowance are eligible for grants to give their children access to a computer and the internet at home (Becta, 2009);
- the National Plan for Digital Participation, which arose from recommendations from the Digital Britain Report, is made up of a coalition of interested parties and is partly aimed at helping the 12.5 million people who do not currently access the internet (Digital Participation Consortium, 2010); and
- whilst being nationally funded and organised, UK Online provides access through local centres around the UK. The centres provide public access and some training to use computers and the internet, most frequently to those who wish to improve their IT skills. As the centres are concentrated in deprived areas, they often serve communities that are vulnerable to digital and social exclusion (UK Online, 2010).

Clearly, any plans Jobcentre Plus develops for the delivery of its own online services – for example, training programmes for its customers on using the internet, or the provision of equipment, etc. – will need to be co-ordinated with those of other agencies delivering initiatives in order to ensure cost-effectiveness and avoid duplication. As indicated earlier, with the passage of time, those who

are currently regular internet users, will move through the age cohorts and the number of Jobcentre Plus customers who are non-users will decline. However, as already discussed, speed of access and geographical location can currently limit the effective use of the internet for some users. Whilst this should be remedied to some extent through the UK's Universal Service Broadband Commitment, there is clearly a need for further consideration of how access and confidence can be increased among people who cannot afford home or mobile internet access or do not know how to use it.

2.3 The trend towards convergence

With digitisation of content, greater access speeds and broadband capacity – and the recent developments in digital technologies (both mobile and home based) – the next few years are likely to see convergence around a smaller number of digital devices through which to access, view and use content via the internet. Responding to this rapid change will be a challenge to both the imagination and services of organisations such as Jobcentre Plus as the direction of change is away from a hierarchical 'one size fits all' means of content provision and towards a multi-platform, user-driven one of content generation.

2.3.1 The coming together of devices

Although desktop computers have been the primary mode of accessing the range of resources and services available on the internet, it is expected that mobile devices will increasingly emulate these features in a process which will see mobile technologies increasingly integrated and convergent (Seka, 2010). As such, while we currently think of mobile devices as internet-enabled phones, in the future they are likely to become thought of as phone-enabled mobile computers.

This convergence can already be seen with new devices such as the Apple iPad which has a 3G-enabled version (thus can access fast broadband connections) and for which there is already a Voice over Internet Protocol (VoIP) application (which enables telephone calls to be made over the internet). It is also clearly visible in established games consoles (such as the Wii, Playstation 3 and Xbox), which increasingly include internet browsers and VoIP applications in addition to their gaming features.

Television seems to offer the same possibilities for convergence. Television ownership is almost universal, with 99 per cent of UK households (25.88 million) owning at least one set (Dutton, Helsper and Gerber, 2009). The take-up of digital television ahead of the closure of analogue transmissions has seen 96 per cent of households now owning a digital-enabled television, with Wales having had its analogue transmissions switched off at the end of March 2010 (Ofcom, 2010). The use of the internet to view television programmes through a desktop computer is widespread and growing, but actually using an internet-enabled television to access internet resources in any meaningful way is currently limited, although expected to increase as a consequence of the move to digital television and the

increasing inclusion of either wired or wireless internet connections on televisions. Marks and Spencer, for example, has recently launched a television with embedded internet that allows users to access internet television programmes that are usually accessed through the BBC's iPlayer (Wallop, 2009). Similarly, in March 2010 Sony launched a series of internet televisions with similar internet provision (Cnet News, 2010).

A relevant example of this convergence of television and internet is a new interactive service Jobsite.co.uk which has recently started trialling on Freesat. This currently provides the ability to undertake job search and is to be enhanced with interactive video interview practice in the near future (Jobsite, 2010a). This strategy, from the viewpoint of encouraging internet use by current non-users, could be harnessed to deliver, quite apart from the myriad services available on the internet, local and government services on exactly the same basis as those currently provided to desktop computers and mobile devices. Take up is currently limited for these televisions, but is growing, and it is expected that about one-fifth (20 per cent) of televisions for sale in Western Europe will have internet connectivity by the end of 2010 (WorldTVPC.COM, 2009).

In the longer-term, Drozd (2009) suggests that televisions will routinely include wireless internet connectivity and become part of the devices which are used to access the internet. This moves the television away from just being a passive device to one which bypasses the PC or mobile phone as intermediaries, making it independent from them (Drozd, 2009). This offers an array of possibilities in terms of mainstreaming the internet into everyday life. In particular it could appeal to those in older age groups who are familiar and comfortable with the technology of the television, but who are currently infrequent or non-users of the internet. It may also, for some, remove the need to own a desktop computer.

Again, as with developments in respect of mobile internet usage, this development is something Jobcentre Plus ought to be aware of, but should also bear in mind that it is unlikely to become a major digital channel in the short-to-medium term given the frequency with which people replace their televisions.

2.3.2 Providing services on multiple platforms

The term Web 2.0 has come to refer to the second generation of websites, where users are not mere consumers of information, but are rather 'prosumers', both producers and consumers of content. For example, millions of people not only watch content on YouTube, but have uploaded content to it. Providing services in this environment is a radical departure from traditional hierarchical models in which the service provider retains total control over the way in which information is used.

Social networking sites are websites that allow the creation of personal profiles and enable the public to connect and communicate with other people who have signed up to the site (Boyd and Ellison, 2007). These vary in purpose from those that focus primarily on the finding and navigation of content by following people

with similar interests (e.g. Flickr, YouTube), socialising (e.g. Facebook, Twitter), and networking (e.g. LinkedIn) (Thelwall and Stuart, 2010) through to complex 'virtual worlds' (e.g. Second Life). The most popular social network site in the UK, Facebook, is now visited by 29 million unique people in the UK each month, this providing an indication of the potential of this medium (Cnet News, 2010). In this context, it is not necessary for a service such as Jobcentre Plus to have its own social network sites to engage with users, as it would be able to engage with users on existing social network sites in a variety of ways and in-so-doing to take Jobcentre Plus services to its customers and – **critically** – also enable users to share relevant information themselves.

Of course, social networks have always played an important role in the labour market, especially amongst traditionally disadvantaged groups such as immigrants (Drever and Hoffmeister, 2008), and online social network sites offer the opportunity to maximise the potential of networks, strengthening the weak ties that can be critical in finding jobs (Granovetter, 1973). The potential of social network sites for supporting individuals in the transitions of life, such as starting a new job, are widely recognised (e.g. Ellison, Lampe, and Steinfield, 2009). However, best practice of how such support should be implemented is difficult to determine in a world where the defining attribute is the notion of the 'perpetual beta'. This environment is characterised by the ongoing introduction of new features (O'Reilly, 2005) alongside changes to reflect the characteristics and wishes of its users.

Two of the features that social network sites have tried to incorporate are the introduction of application platforms to enable innovation from the wider community and the provision of core services through the use of mobile technologies. Applications are pieces of software that are designed to perform specific tasks. The application platforms that have been introduced by each of the main social network sites allow external organisations to develop applications, services and tailored use of information. Users can then incorporate these into the social network sites to personalise their profiles and perform tasks unthought-of by the social networking site itself (Boyd and Ellison, 2007). Examples range from a variety of games to play with networked friends, to news and calendar applications, and applications for engaging with other social networking sites.

Transferring this kind of approach to the way in which Jobcentre Plus might engage in this kind of environment has a range of potential benefits and risks. Of course, at one level Jobcentre Plus could incorporate some of their resources/information/services into the existing social network sites and tap into the numerous applications and communities that exist on websites such as Facebook. For instance, some communities already focus on the job hunting process from different perspectives, such as:

- 'Hire My Friend', an application designed to help people find work by friends introducing them to their network;

- 'Work with us', an application designed to help employees connect their online 'friends' with jobs in their organisation; and
- 'Recent Jobs' helps organisations to publish the jobs on Facebook.

There are, however, potential difficulties in trying to use the power of social networking sites to provide job search services or to engage in job search, especially those social network sites that are primarily used for social purposes and that may contain potentially damaging information about an individual (Rosenblum, 2007; Tufekci, 2008). These problems may be alleviated through highlighting the need for users to take into consideration the consequences of the information they make available online, and the privacy settings social network sites offer. Whether or not Jobcentre Plus engages with users on social network sites directly (or does so through third party organisations), it would need to ensure its customers exercised caution about publishing personal information that potential employers could come across. For example, it is known that almost half (48 per cent) of UK companies have implemented formal policies requiring hiring personnel to research applicants online (Cross-tab, 2010).

Mobile internet-enabled devices are seen as one of the key areas for the delivery of social network services, with the number of people accessing social networks predicted to rise by about one-fifth annually between now and 2015 (Duryee, 2010). Whilst smartphones and other internet-enabled mobile devices increasingly provide the opportunity for complex services to be provided through dedicated applications, including geographical-based services, less sophisticated feature phones continue to be an integral part of many social networking services with agreements having been made between the mobile phone operators and social network sites for the delivery of social network updates via short message services (SMS). An example of a directly relevant use of this technology is where Jobsite.co.uk provides a service where users can receive messages on Twitter providing details of jobs which match their job specifications and, if the user has provided Twitter with their mobile phone details, these messages can be received as SMS text messages (Jobsite, 2010b). As such, whilst the technology offers more sophisticated potential for the future, existing ubiquitous devices can be used so long as the requirements of the service are within their capability.

Virtual worlds are at the other end of the spectrum from the simplistic services that can be delivered via SMS text messages. Virtual worlds can be defined as a *'synchronous, persistent network of people, represented as avatars, facilitated by networked computers'* (Bell, 2008), and provide the opportunity for far richer interpersonal interactions. Although the higher specification technology and more complex set of skills required for both the browsing and creation of content (Stuart, 2010), means they are less accessible to the average user. Nonetheless, such sites have already been used for the successful provision of public services such as libraries (Bell and Trueman, 2008) and museums (Urban, Marty, and Twidale, 2007), and have been used in the provision of training and education (Ritzema and Harris, 2008). Such virtual worlds could reduce the need for customers to come

to a physical office for certain Jobcentre Plus services: certain training schemes could take place online, as well as mock interviews to help people get into work. This provides a concrete example that a fuller range of services could be made available online than 'simply' job-search related activities.

2.3.3 The move to de-centralised service provision

With so many different platforms and technologies available for engaging with members of the public it is becoming increasingly necessary for organisations to engage with the wider community if they are to make best use of the available opportunities. Whilst organisations can be innovative, it is increasingly recognised that greater innovation can be achieved by organisations opening up their data and allowing external individuals and organisations to make use of it. Indeed, there are a number of examples where economic benefit has already been identified and realised through this process.

Following examples of commercial success of this approach (Tapscott and Williams, 2006), the UK Cabinet Office commissioned an independent report on the benefits of increasing access to public sector data. Mayo and Steinberg's (2007) report highlighted the opportunities to both the public and public organisations from making public data available. Over the last 12 months, governments throughout the world have been increasing access to large amounts of government data through the creation of dedicated government data websites (e.g. www.data.gov.uk, www.data.gov and www.data.govt.nz), and government directives to make increasing amounts of non-personal public data available online. At the simplest level these one-stop-shops bring together previously disparate information on a single website. At the most complex level, they publish (or republish) data sets according to the principles of Linked Data, the latest incarnation of the 'semantic web'. Although data have value irrespective of its format, the format does have important implications for how it can be used.

There are many examples of innovative 'crowd-sourced' services built around open data, and crowd-sourcing the creation of useful data sets. For example:

- www.asborometer.com uses data released under the data.gov.uk initiative to provide a mobile application that measures levels of anti-social behaviour at a user's location;
- www.mouseprice.com combines Land Registry price paid data with estate agents prices and Google street view;
- www.fixmystreet.com provides a simple method for members of the public to report local problems such as potholes and fly tipping; and
- www.parkopedia.co.uk enables members of the public to contribute information on parking places and prices.

Of course, 'simply' turning the problem over to interested individuals and organisations is by no means a cure-all, for example despite the success of FixMyStreet in engaging with citizens, local government officers had a number of

concerns about duplication of their own websites, managing user expectations, and making sure the information is up to date (King and Brown, 2007). However, such problems are by no means insurmountable.

The potential advantages of making the raw data available can be clearly seen in relation to Jobcentre Plus's recent launch of the Jobcentre Plus mobile app for certain smartphones, those with the Apple or Google Android operating system (DWP, 2010). However, despite huge media interest in the iPhone and Google Phones, it remains the case that they are far from representative of the majority of smartphone users, the largest proportion of whom have phones running the Symbian operating systems found on other manufacturers' phones, such as Nokia and Sony (Canalys, 2010). Providing the raw data in a way that could be manipulated by the active Symbian developer community as well as those developing applications for other operating systems would have provided access to Jobcentre Plus mobile applications for a far larger number of users. It is also likely that people external to Jobcentre Plus will think of more innovative ways to use the data than the small number of (in-house or commissioned) developers currently working on the creation of a Jobcentre Plus mobile application.

Jobcentre Plus is in a position to make a considerable amount of useful (not person-specific) data available, not only about the jobs available in an area, but the skills and qualifications of those looking for work and a whole range of other contextual information. Such data has huge potential for helping people find work, for helping the organisations which provide job-search support, and also for meeting the needs of businesses seeking to employ people.

In short, it is important that public services in general recognise that they cannot do everything themselves in this new and fast changing online environment and that they should view the potential of allowing other organisations and individuals to use their data creatively as an opportunity that will be mutually beneficial. This will enable developers to produce applications that Jobcentre Plus might never consider developing themselves – such as a Geographic Information Systems (GIS) application which enabled users to search for Jobs in their areas with specific hours on particular bus routes – and enable provision to be made on whichever device or platform the developers consider most appropriate.

2.4 Key points

- Access to the internet for its customers will be the key determinant of the extent to which Jobcentre Plus can successfully deliver its services digitally over the next few years. Access issues relate to both the availability of an adequate service coverage and take-up. Despite progress in both areas over recent years, significant geographical and socio-economic variation remains. The USC to faster broadband connection speeds will extend coverage and increase the number of people who are able to make full use of Jobcentre Plus digital services.

- Internet-capable mobile phones and other devices allow an alternative way of accessing the internet. For some, this is the preferred or the only available mode. Only '3G' services offer the capability to interact with e-Government services and 3G coverage is by no means universal. Ownership of 3G-capable devices is expected to increase rapidly over the next two or three years. Meanwhile, '4G' network capability and devices are currently being trialled which potentially offer broadband speeds far in excess of most current fixed connections.
- The willingness of (potential) Jobcentre Plus customers to engage with the internet and online services varies. Whilst gender differences have largely disappeared in recent years and there is little difference between people in different ethnic groups, older people remain less likely to use the internet. This poses a problem as many older people see 'the internet' as something they have no interest in or, having tried it, feel it has little to offer them. In addition, many people from disadvantaged backgrounds (in terms of income and education) are less likely to be able to use the internet, either due to lack of connection or capability. The 'migration' of people who have little interest in using online services is difficult, but it is important to recognise that this is likely to be a declining problem as younger cohorts age. This does not, however, overcome the many challenges that remain to reducing digital exclusion and, indeed, avoiding it becoming more entrenched.
- New web technologies and the plethora of digital devices using different platforms offer a complex range of new routes through which Jobcentre Plus can engage with customers digitally and through which their services can be delivered. These developments have taken place during a period in which some of the most effective innovations have occurred when providers of digital services have moved from a 'hierarchical' model of service design to one where customers and external organisations have a central – and much more proactive – role.

3 Public expectations of e-Government and the barriers to participation

The expansion of e-Government is a central plank of the UK public sector reform agenda. Across the past decade, this has given rise to wide-ranging research designed to assess citizens' receptiveness to online services and to evaluate initiatives aimed at promoting uptake.

Chapter 2 looked at the infrastructure issues which effectively determine whether people can access the internet and online services and the routes by which they can do so (or not) and in-so-doing explored the issue of the 'digital divide'. This chapter explores people's expectations of e-Government services and the way in which they are prepared to use them. It also looks at the barriers (real or perceived) to people accessing and using the services that are available. In-so-doing it aims to provide Jobcentre Plus with a clear indication of customer 'appetite' for a rollout of a digital service delivery and some of the issues it will need to address in order to convince and enthuse its customers to engage with and use the new services that may become available.

- **Section 3.1** explores public attitudes towards and expectations of government websites.
- **Section 3.2** considers the 'appetite' amongst people for switching to online service provision.
- **Section 3.3** examines the role of information technology (IT) in the lives of (particularly disadvantaged) people and the barriers to their engaging with digital service provision.
- **Section 3.4** highlights the key issues raised in this chapter.

3.1 Attitudes towards and experience of UK government websites

3.1.1 Experience of website design and functionality

The development of e-Government in the UK has been an iterative process with evaluations of systems and policies informing change. Central to this process has been a commitment to tackling the digital divide by promoting internet access and literacy among at-risk and disadvantaged groups, most notably through the funding of UK online centres (Department for Education and Skills (DfES), 2005).

Three key considerations underpin the development of UK public service information exchange systems. These are:

- maintaining the security, accuracy and integrity of benefits systems;
- delivering the best feasible customer experience; and
- maximising efficiency and minimising running costs.

However, the operationalisation of these aims creates tensions between service providers and the intended customers as well as among those administering services (National Audit Office (NAO), 2009: p.12).

In order to monitor these key principles, the UK government currently uses ten criteria for gathering feedback on their websites. These are intended to resonate with customers' expectations of the use of government sites. These criteria are used by the NAO in their evaluations of the performance of government departments and agencies. They identify that UK government websites ought to:

- be up to date;
- be designed to help people find out information;
- be easy to use and clearly written;
- be designed for all kinds of people;
- be as good as private sector sites;
- be designed to help people get things done quickly;
- be designed to ensure people can trust what they say;
- use icons, video and audio;
- help people find out what other users of government services think; and
- be able to be recommended to friends or family.

In focus groups that formed part of the NAO's 2007 evaluation, some participants said that information was not presented clearly and websites were often (very) difficult to navigate. In the same study, a census of departmental and agency websites found that:

'Overall quality has improved little since 2002. Many search engines remain ineffective, sites tend to be text-heavy and stringent accessibility standards are not always being met.'

(NAO, 2007a: p.7)

In a subsequent study, NAO implemented experiments whereby users attempted to find answers to questions about their unemployment benefit entitlement using Directgov. Some found their searches generated 500 pages and, to their confusion and frustration, it was often the case that the most useful and relevant pages were not listed first (NAO, 2009). This said, the report also noted that Directgov quickly modified its search engine in an attempt to respond to these criticisms and to enhance its effectiveness for users.

The same study used mystery shoppers to compare the experience of searching for Jobcentre Plus information in person at Jobcentres and via call centres. This was then compared with the experience of seeking the same information online. It noted that the current economic downturn, and consequent increase in applications for benefits processed by Jobcentre Plus offices, had placed great pressure on the service – and commented that this additional workload was reflected in an increasing number of abandoned calls made to centres (i.e. callers hang up without connecting to an adviser). In contrast, information relating to simple queries was generally found online quite easily. In short, this indicated that (when phone services are over-stretched) customers who are confident about using the internet are likely to find accessing information online less frustrating than attempting to do so by phone. However, it also indicates that those who cannot (or choose not to) access services online are placed at a disadvantage for even relatively straightforward enquiries.

Customers are also able to register their interest in applying for Jobseeker's Allowance online. In this scenario, a call centre operative will phone them to complete the application. The NAO report notes that around nine in every ten (92 per cent) people who register online are called within 36 hours. However, for some, there is occasionally a more substantial delay (NAO, 2009). In some cases, this time delay may represent a considerable disadvantage compared with initiating the process by phoning the call centre directly. This outcome appears to conflict with the broad principles that the public believe should guide public service delivery, namely that they are demonstrably fair and universal (Ipsos MORI, 2010). NAO noted:

'The Department is developing an online application process for Jobseeker's Allowance (see Part 1) beginning in July 2009. There is a clear customer demand for this service. Full online application has the potential to reduce significantly the information exchange burden on both the customer and the Department.'

(NAO, 2009)

If Jobcentre Plus is to deliver an improved service for its customers in a cost effective way, it is essential that customers who apply online do not perceive themselves to be disadvantaged by this choice of medium. Otherwise, there is the risk that 'double provision' (and thus increased costs) may result, with large numbers of customers trying one means of accessing the service and then trying another.

NAO statistics reveal that just under half (45 per cent) of all visits to government websites occur outside normal office hours, in the evenings or weekends. It may be inferred from this that people value the round-the-clock access to information offered by online government services (NAO, 2007a).

Over the last few years, increasing numbers of people have accessed government websites in search of information and many have downloaded forms for manual completion. Despite this, most communication occurs via conventional channels – face-to-face meetings, phone conversations and letters and postal submissions. Many of the expectations associated with these channels are codified in service delivery commitments and some of these are applicable to the online exchange of information. The Jobcentre Plus commitment to provide relevant information relates both to website content and to responses to email requests for specific information. Jobcentre Plus is also committed to replying to a letter, fax or email within ten working days of receipt.

The service delivery commitment to respect privacy may also have salience for customer expectations for online services. Where users are able to exchange information with Jobcentre Plus online using a private computer they may have more privacy than when they use a 'warm phone' in a Jobcentre Plus office. Where they are using a public computer, for example in a public library, privacy may be compromised. Other Jobcentre Plus service delivery commitments relate to providing a polite and friendly service and treating customers with respect.

Within Department for Work and Pensions (DWP), email engagement with customers remains under-developed and feedback is not available on customer experiences of this medium. In addition to the above issues of privacy, respect and timeliness, research might seek to evaluate the accuracy and completeness of information transmitted both to and from the customer via email, compared with conventional channels.

3.1.2 Sharing information online and expectations

A key issue for government in encouraging people to use online services relates to the extent to which people are content to share personal information with government departments via online services.

There is evidence that some Jobcentre Plus customers want to be able to update their details digitally and also that some customers would like a direct online link to a Personal Advisor (Nunn, Walton, and Jassi, 2009). This links into the wider agenda of greater personalisation in service delivery that is tailored to individuals' needs and also brings in the issue of balancing customer expectations with the reality of online service delivery.

Preconditions for customer engagement with the e-Government project include access to appropriate technology and IT competence. Above and beyond this, however, the prospect and experience of digital engagement with government services needs to be more attractive than conventional modes. Some agencies may be in a position to offer explicit incentives, such as online tax collection allowing a later payment date than postal returns. In some circumstances, conventional modes of making transactions may be withdrawn, thereby making online engagement the only option. However, where customers retain a choice, a key element of the success of online systems is customer satisfaction with their user experience.

Offline service quality has been the subject of extensive research. To date, research into website service quality (e-service) lags behind and is highly likely to relate to consumption in the 'virtual marketplace' rather than public services (Connor, 2007). In e-Commerce, e-service quality is driven up by the pursuit of profit and by competition. Where a vendor adapts their website in a way that puts them 'ahead of the game', competitors quickly modify their own services to mimic these successful aspects. As a result, the market environment is constantly evolving as vendors attempt to maximise customer satisfaction. Some lessons on e-service are transferable from this domain to e-Government. Continuous enhancements across the virtual marketplace drive up expectations. Government websites that do not share this drive to innovate in line with the most successful commercial websites risk incurring increased customer dissatisfaction. Where government websites have competitors, they may lose customers to sites that offer a better customer experience; for example, NHS Direct may lose out to the myriad of sites offering health advice.

Key components of users' confidence in online systems are reliability, trustworthiness and transparency. The more risks attached to a transaction, the greater the need for confidence in the system. For example, the filling in of tax returns online requires customers to reveal a wide array of confidential information about their income and assets as well as evidence of their identity. This potentially leaves them open to fraud, including identity fraud. In addition, the process ascertains the level of tax that is payable by an individual; consequently, it needs to be accurate, and seen to be accurate. Users will only be happy about switching from 'analogue' modes to a digital mode if they have a sufficient level of confidence in the security and reliability of the system. Within the high street banking sector, there is often a sliding scale of security measures depending on the security risk of the online transaction, with a Chip Authentication Program device required for the highest level transactions. Such devices are not only more secure, but the use of a physical device separate to the internet is likely to increase a user's trust in the security of the system.

Whichever way personal information is submitted to a government agency, it is highly likely to be stored in a digital form. In recent years, a series of serious security breaches has occurred relating to confidential data collected by government agencies. The most notorious of these occurred in 2007 when Her Majesty's

Revenue & Customs (HMRC) lost two discs containing the personal details of all UK families with dependent children. For some commentators, the loss of data (which involved a breach of the Data Security Act) was compounded by the delay in informing the public that their security may have been compromised. As a subsequent government report into the loss noted:

'It is clear that more can be done to improve trust and confidence about the arrangements in place to protect information in government. Transparency should be a powerful tool in this respect.'

(Cabinet Office, 2007: Point 45)

The erosion of public trust may have implications for citizens' attitudes towards engaging in e-Government.

In the case of filing tax returns, providing all of the relevant information (by one mode or another) is mandatory for individuals in specified circumstances and relates to the need to calculate the level of tax due. For Jobcentre Plus customers, and applicants of other benefits, the provision of information is a prerequisite for an application to be considered. In recent years, concern over the way in which governments may seek to use the data they collect has focused on proposals for the introduction of identity cards. These proposals would involve the capture of an extended range of personal information on everyone; consequently, new (i.e. more) information will be collected on 'new' (more) people.

The specific issues of security and access are very important in driving forward the e-Government agenda. Joinson's (2009) research in relation to the adoption of identity cards in the UK revealed a suspicion of what the government was using personal data for. The range of personal information to be collected (including biometric data) may give rise to a perception that privacy is compromised. This suggests that public bodies need to demonstrate that they are using personal data with integrity and in a way that does not impinge on their citizens' privacy. The government recognises that for e-Government to succeed, it needs to demonstrate to the public that personal data is secure (HM Government, 2009).

People who have little experience of using the internet may be very concerned with the risks associated with this activity. At a simple level, they may fear that they will break the computer by pressing the wrong keys. More broadly, they are likely to have heard warnings about the risk of spam, hacking, phishing, identity theft and other online threats. Many internet users do not know how to install anti-spyware or anti-virus software (and perhaps have nobody they can ask to help them) others may believe (perhaps wrongly) the subscription for software is too expensive. Those households who are dependent upon dial-up connections may have found it impossible or impractical to download the frequent security updates that they are offered. Some Internet Service Providers (ISPs) offer a range of services that may ameliorate some of these perceived problems. Meanwhile the growth of client based 'thinware' offers an avenue for passing on this responsibility to a company; however, these options for buying a way out of responsibility may, in themselves, require some level of technological understanding as well as financial outlay.

It is clear that concerns over security of data provided to government, and the more general issue of the transmission of personal data over the internet, may reduce the likelihood that individuals will be willing to engage with online services. One way to counter public concerns in these areas might be to establish minimum standards of security and privacy (Joinson, 2009; Lips *et al.*, 2009). Security breaches that occur as a result of inadequate protection on users' machines could undermine their confidence in digital transactions. This could, in turn, have a negative impact on how citizens view engagement with e-Government, even though responsibility for the security issue did not in fact lie with government.

As the government's intention is that more customers provide information online, it has a clear, key role to play in setting protocols on data security and access (Department for Culture, Media and Sport (DCMS) and Department for Business, Innovation and Skills (DBIS), 2009). It also needs to educate people about their online safety and security and provide assurances of the integrity of both their systems and customers' own computers. Whilst UK Online centres and schools are educating people on these issues, the majority of users are not accessing the internet through these organisations. Schemes such as *Get Safe Online* highlight the potential risks of being on the internet and safety measures to avoid scams, fraud and identity theft. GetSafeOnline.org is a free public service from HM Government, the Serious Organised Crime Agency (SOCA) and partners from the private sector (Department of Communities and Local Government (DCLG), 2009).

The risk of identity fraud is one faced by all online users, not simply those who have limited understanding of the underlying technology. The financial sector increasingly offers verification systems such as **Visa Verification** which prompts buyers to use an additional single password when utilising their credit or debit card online or Rapport which monitors use of user names and passwords and provides users with notifications if information is being input to a site that raises security concerns. An extension of this is the *Shibboleth* system which is much more forward-looking and takes account of the myriad ways in which internet users may need to verify their identity, such as when accessing NHS services (DCLG, 2008b). A key challenge for this type of system is to ensure that it is capable of functioning when there are millions of users. An additional challenge is to make citizens aware of its existence and its scope and to get them to trust that it will work, both in terms of giving them access to organisations and in keeping their details safe.

3.2 The customer 'appetite' for migrating to online services

In order to roll-out online services to their customers, Jobcentre Plus is keen to understand whether there are particular groups of people who will be reluctant to 'migrate'. It is also important to understand what the barriers to using these services are and whether it may be possible to encourage some of this group to access online provision.

Sections of society who have not embraced the digital revolution may require, or prefer, conventional modes of interaction particularly for transactions such as making a benefit claim. The NAO notes:

'Improving service delivery also includes meeting the needs of those who cannot make use of online services or those who feel more comfortable with traditional forms of engagement, such as face-to-face contact. The challenge for government will be to select and design the most appropriate means of delivering services to citizens in ways that suit them best.'

(NAO, 2007a: p.4)

Given the potential savings associated with the online delivery of services, this is one area where the commitment to enhancing the customer experience creates tensions with the commitment to minimise costs.

Research funded by the (then) DfES offers an early insight into public attitudes towards utilising online government services (DfES, 2005). This research, which primarily engaged staff and users of UK online centres, was a response to the recognition that the take-up of emerging e-Government services remained low. The focus on online centres is particularly appropriate as they are concentrated in disadvantaged areas and offer advice and training designed to meet the needs of those at greatest risk of digital exclusion. Complementary elements of the research focused on the attitudes of the general public. These included modules in Omnibus surveys in 2004 concerning attitudes to e-Government and willingness to search for government information online.

Focus groups with UK centre users and the general public revealed broad support for the concept of online government services (DfES, 2005). Results from the Omnibus survey reveal that a willingness to access government websites was less common among older people and those with no qualifications. Omnibus respondents were also more willing to access e-Government sites to gain information than to conduct transactions.

One element of the research project took the form of a telephone survey of UK centre users. Respondents were asked about their readiness to use a website with links to local and national government departments and whether advice from centre staff might be a factor in their willingness to access such a site. A large majority of respondents reported that they would be willing to access the website from the centre or learn how to do so at the centre and then access it from home (DfES, 2005).

In the context of having access to training and help from centre staff, respondents were asked what would be their preferred method of contacting public services in the future (with multiple responses being allowed). While most opted for the internet, a sizeable minority (32 per cent) opted for telephone contact. This preference for a 'belt and braces' approach (with internet access to government sites being augmented by telephone contact) was similarly articulated in the focus groups. Among centre users and the general public alike, a phone call was seen

as the most appropriate mode of contacting government departments when an enquiry was urgent; similarly, there was the view that a letter would be taken more seriously than an email (DfES, 2005).

UK online centres continue to play a pivotal role in the government's drive to combat digital exclusion. In the most recent annual review, 98 per cent of users rate the service as good to excellent (UK Online Centre, 2008); however, these high standards cannot be taken for granted and must be actively maintained. From the DfES-funded research, a number of factors were identified as being key to the success of online centres in promoting the e-Government agenda (DfES, 2005). Users expect staff to be fully trained in the wide range of information available and to provide sound advice on form completion. In addition, users are interested in targeted information sessions and want to be able to book one-to-one sessions to ask specific questions or get support in completing forms.

The fieldwork for the above research was conducted six years ago; however, many of the findings have enduring relevance. People who cross the threshold of UK online centres today are likely to be facing similar obstacles to utilising e-Government services, both in terms of attitudes and competence. This reflects the continued importance of support services such as online centres.

In 2007, DWP published qualitative research in which members of the public were asked their opinions on a wide range of issues relating to DWP's remit. One of these was of the migration of benefits services online (Hall and Pettigrew, 2007). Initially, many participants had concerns about the prospect of a wholesale migration. Some thought that the services offered by DWP were so personal that human contact was essential. They suggested that sometimes people do not have the self confidence to apply for jobs without support; consequently, if service delivery was moved online an important part of DWP's work would be lost. Others, particularly younger participants, could readily appreciate the convenience of online services.

The study found the public were concerned with all three of the government's key considerations for the development of e-Government. As potential users, they expected a high quality service and needed to be confident their personal information would be used appropriately and stored securely. They also appreciated the cost savings that could accompany the automation of certain services; however, in this regard there was some ambivalence as the benefits of making cost savings may be partially offset by an increase in misuse of the system. Older participants in particular felt that online service delivery could facilitate benefit fraud, for example, through identity theft. In addition, focus groups felt that some level of ongoing personal contact would always be necessary to confirm that unemployed claimants have actively sought work rather than simply reported they had done so online. As one participant noted:

'It's easier to lie online than it is to someone's face.'

(DWP, 2007: p.72)

After deliberation, a majority of participants could see advantages to online service delivery particularly the opportunity to search for job vacancies online. They thought this would open up the service to those in work as well as the unemployed and reduce the stigma associated with being seen to be claiming benefits. Participants thought it was important that vacancies could still be accessed via Jobcentre Plus offices so that those less confident about using IT would still have access to them. The argument was made, however, that the vigorous promotion of online transactions may be in the long-term interests of Jobcentre Plus customers as a working knowledge of the internet is an asset in many sectors of the job market (Hall and Pettigrew, 2007).

The opportunity to store claimants' information online to reduce the complexity of making new or additional claims was also seen as a positive opportunity. Overall, participants thought it was essential to develop online services for the future as the younger generation will be more confident in their ability to use such systems. They concluded that any move towards increased online provision would need to be communicated carefully to customers to allay fears about security and to ensure they were aware of all of the channels they could use to access help and support (Hall and Pettigrew, 2007).

Research based on DWP customers (DWP, 2009) found that those receiving Jobseeker's Allowance (JSA) were much more likely to have used the Jobcentre Plus website than those in receipt of Income Support (IS) or Incapacity Benefit (IB). This was mainly because they were more likely to be searching for work. Awareness of online services among respondents was generally good, but some customers had chosen not to use it for various reasons, including no access to the internet, a lack of confidence with computers, limited IT skills, or simply a preference for other channels. Many JSA respondents without internet access expressed an element of resentment towards the move to online services. There was a degree of dissatisfaction with the website because it was not available at Jobcentre Plus offices and was not user friendly for customers with dyslexia or low levels of literacy.

The findings suggest that those in receipt of state pensions and pension related benefits may be relatively slow to migrate to online services. Customers looking for jobs may be relatively open to migration to online services, compared to those receiving other benefits; however job seekers who do not have access to the internet may become alienated if migration does not take their needs into consideration.

3.3 The role of IT in people's lives and obstacles to online use of services

Disadvantaged individuals face the greatest risk of both digital and social exclusion. Research by the Oxford Internet Institute found that around one in ten adults in the UK is both socially and digitally excluded, that is, they have a severe

combination of social disadvantages and no meaningful contact with online services (Dutton and Helspar, 2008 reported in DCLG, 2008a). In this context, social exclusion is defined as having many markers of disadvantage; these markers are low education, income and social status, unemployment and poor health. Key issues for the digitally excluded include employment, finance, shopping and access to information, advice and services.

The pervasive presence of the internet in everyday life has led to it being described as a utility, i.e. as essential as supplies of water, gas and electricity. Most jobs now require computer skills and many employers only accept online job applications (for example, the NHS). People who do not have these skills are excluded from large tracts of the labour market. Online commercial transactions require access to a bank or building society account and possession of a debit or credit card. A significant section of the population is unable to meet these criteria and so cannot take advantage of the cheaper goods and discounted services available online. As a result, the (potentially overlapping) groups of the digitally excluded and the financially excluded may pay higher prices or receive poorer services than those able to access online goods and services. The impact of this may be compounded where individuals have difficulty accessing 'physical' sites, such as the local branch of a bank or a supermarket. Barriers may include disability, caring responsibilities, lack of access to a car or living in a remote area.

As the growth of internet-based communities continues, these remain closed to people who are digitally excluded. Longley *et al.*, (2006) argue that lack of access to digital technologies, and thereby to information networks, may result in adults becoming progressively marginalised from the (real life) communities to which they have belonged in the past (Longley *et al.*, 2006). Internet users are able to access advice and support from other users about diverse aspects of their life such as child-rearing or bereavement. Similarly, children who lack access to modern communication technologies are at a disadvantage when wanting to participate in social networks with other pupils in their school (*ibid*). Quite apart from difficulties of communication, the lack of access to the technology can make it more difficult to be accepted by social networks which are based on high levels of peer group communication.

Digitally excluded people cannot take advantage of websites such as NHS Choices. This website was designed to empower citizens to take responsibility for health maintenance and to reduce health inequalities. However, as people who are digitally excluded are disproportionately likely to have poor health, there is a risk that those who need the service most are unable to access it (DCLG, 2008a). Furthermore, digitally excluded people are unable to use the website to comment on their experiences of using public services and so their opinions do not inform the development of service provision. This marginalisation may extend to many areas of their life as new services are provided digitally and existing ones are transferred. For example, by 2012 all schools will provide online reports to parents detailing their child's attendance, behaviour and attainment and special needs. In addition,

online applications are proposed for parents to claim free school meals for their children (DCLG, 2008a). This simplification of the process – compared with the existing paper-based applications – is designed to enhance take-up; however, this outcome can only occur where parents are able to access the online service.

Currently, there are many structures in place to help disabled people utilise public services. This is particularly important as disabled people are more likely to rely on public services (such as the benefits system and the NHS) than those with no disability. It is essential that, as the delivery of public services is increasingly digitised, it does not become less accessible to disabled people.

Within education, many facilities exist for aiding students with disabilities to access computers and the internet. Disabilities addressed include autism and dyslexia as well as physical and sensory impairments. This has been brought about by a substantial, long-term investment in both hardware and software by schools and colleges, as well as by well-structured institutional support. Some fixes are simple, such as changing the choice of colour schemes for helping students who have colour blindness. Such technologies could be highly valuable to adults in both work and educational environments; however, the successful transfer of such practices requires a combination of technological skill and understanding of a range of disabilities. A lack of awareness of the full range of options for addressing access problems remains a stumbling block to the diffusion of these technologies throughout public service and private sector domains (DCLG, 2008b). Where enabling technologies are not available through an organisation or institution, the cost of purchase may be prohibitively expensive for an individual. In addition, standard retail outlets for computers and software are generally not equipped to advise customers about access technology. People who have impaired motor skills or poor eyesight are also likely to be discouraged or prevented from using internet-enabled devices such as smartphones by the size of the keys and the screen.

The Web Access Initiative (www.w3.org/WAI/) has been designed to help disabled people make the best use of the internet. This includes provision of advice, links to other sources of advice and a facility for reporting websites that are inaccessible to disabled people. The Consumer Expert Group (CEG) report into the use of the internet by disabled people (CEG, 2009) notes that, frequently, websites and online forms are designed in such a way that they are inaccessible to disabled people even where they have access to technology. This may occur because, in many environments, such as public libraries, users are not allowed to upload their own software onto computers. Even where disabled people are allowed to modify public machines for their own use, the protracted period of time it can take to modify all the settings may make this option impractical on a regular basis. This report also notes that the most common authoring tools are also not accessible to disabled users, thereby barring them from being producers of online content.

There may be security issues for disabled people using computers in a public place. Users who are visually impaired may be unaware of people looking at their details

(for example, their bank details) as they work online. Similarly, deaf people might be unaware of someone approaching them. A consequence of this is that people with a sensory impairment may get anxious if they are constrained to conduct transactions when their privacy is not ensured.

Research on older people using online search engines has found that they have a much higher failure rate than younger people (research conducted by UCL's Centre for Publishing and reported in DCLG, 2008b: p.20). That is, their searches are less likely to yield relevant pages than younger people. This may be a reflection of their inexperience at using the technology. Whatever the reason, this experience may be dispiriting and may make these users less inclined to pursue their search for websites and information in the future.

3.4 Key points

- There is a clear and increasing demand for accessing government services online. However, users of government websites report that information is often not presented clearly and sites are (often extremely) difficult to navigate. In addition, for some websites, accessing the service online did not enable transactions or requests to be completed without telephone or postal follow-up. The fact that the reality of the online experience does not always meet users' expectations often leads to confusion and frustration and ultimately may lead to disengagement.
- For people who do not have access to, or the skills to use, internet-based services, the increasingly pervasive presence of the internet in many aspects of modern life leaves them vulnerable to further disadvantage and exclusion. In addition, as organisations prioritise online communication with service users, there is an increasing likelihood that they will overlook the needs and preferences of those who do not engage via these channels. As a consequence, unless specific actions are taken, the opinions of digitally excluded users are unlikely to inform the development of services that are intended to support and help them.
- Another critical issue for all of government in encouraging people to use online services relates to the extent to which people are content to share personal information with government digitally. There is clear evidence that many Jobcentre Plus customers want to be able to update their details and communicate digitally, but also that many others have significant concerns and others still have significant barriers to being able to do so. It is clear that concerns over security of data provided to government, the transmission of personal data, and the security issues surrounding storage of personal information on their own digital devices may reduce the likelihood that people will be willing to engage with online services and as such need to be addressed if Jobcentre Plus is to successfully deliver its services through online channels.

4 The experience of e-Government international and in 'leading edge' organisations

In recent years, an increasing number of organisations and companies, such as eBay, Amazon and Netflix (Deloitte Research, 2008) have built and developed their online services around an explicit customer-focused vision. Following on from this, there has been increasing commitment in recent years among governments worldwide to develop and implement citizen-focused e-Government online services along similar lines.

This chapter reviews the available literature on the provision of online services in government departments and businesses in the UK and elsewhere in order to help Jobcentre Plus to identify key issues for consideration during the development, implementation and maintenance of future online services.

- **Section 4.1** explores recent trends in online provision of services in what are often referred to as 'leading edge' private sector organisations.
- **Section 4.2** sets out the international experience of the development and provision of e-Government.
- **Section 4.3** summarises how UK e-Government services have been compared with those of other governments' provision and with provision in the private sector.
- **Section 4.4** details some of the key issues relating to successful migration to online service delivery.
- **Section 4.5** highlights the key issues raised in this chapter.

4.1 Developments in online service provision in private organisations

The use and development of online services by 'leading edge' organisations has centred around a number of priorities, namely:

- maximising the value and effectiveness of online services for customers and organisations;
- developing and maintaining a customer-centric/focused vision, where the internet is considered a 'place' for conversations between customer and organisation;
- the implementation of a state of 'perpetual beta' where permanent change is encouraged and embraced; and
- ensuring users are actively engaged as producers/co-producers of online content/services.

These key elements are also seen as central values in defining the evolution of what has become known as 'Web 2.0'. Osimo (2008b) defines these central values as 'user as producer', 'collective intelligence', 'perpetual beta', and 'extreme ease of use'. This is in contrast to the characteristic form of provision under Web 1.0 where the organisation was the provider and producer of content and the customer a relatively passive recipient.

In their report on the use of customer insight to transform government and e-Government service delivery, Deloitte Research (2008) outline how customer-focused organisations operate and conceive of their relationship with their customers:

- firstly, customer-focused organisations offer personalised online services, informed by customer insight, delivering services tailored to unique customer segments. In contrast to one-size-fits-all approaches '*customers are able to custom tailor products and services to suit specific needs and preferences*' (Deloitte Research, 2008: p.6), also forming part of larger customer segments sharing similar characteristics;
- secondly, customer-focused organisations ensure that the services they provide are user-friendly. Essentially, this means that products or services are within reach of customers, available through accessible channels and at a time convenient to the customer; and
- finally, online services offered by customer-focused organisations are interactive, engaging the customer in the process of developing new, and refining existing, services.

A customer-focused vision has been at the heart of a number of recent online success stories such as Amazon, eBay, and online film rental sites like Lovefilm and Netflix. Registered users of Amazon, for example, are met with a highly

personalised and interactive summary of suggested products when logging-on based on past purchases, customer expressed preferences and user generated wish-lists. Users are encouraged to review products and sellers, and invited to participate and interact with each other and the organisation in a wide variety of ways (O'Reilly, 2005).

While customer-focused organisations such as eBay and Amazon are setting the standard for the way in which organisations and customers interact, they also provide platforms for interaction between customers themselves (Tapscott and Williams, 2006). Closely linked to the principles of customer-focused organisations is the premise that the internet is not a place for **broadcasting** information to customers about products and services, but rather a place for **conversation** between organisations and customers (Locke *et al.*, 2000).

In their *Cluetrain Manifesto*, Locke *et al.*, argue that organisations need to recognise that their customers are connected through social networks (or 'person-to-person conversations') and crucially that these conversations provide information and support about products and services that can be independent (and sometimes critical) of the organisation itself. In order to maintain customers, they argue, organisations need to engage in conversations with their customers, 'speak' in a human rather than corporate voice and share and address the concerns of their communities. Despite the various emergent web technologies in place to help organisations engage and converse with users (blogs, social networking sites, wikis, tagging, etc.) it is argued that many traditional organisations, such as financial services (and government), are still struggling to catch up (Scoble and Israel, 2006; Stone, 2009).

Building on the recognised importance of maintaining a customer focus and engaging in conversation with customers is a service development process called 'perpetual beta'. The basic premise of this concept is that online services are not released as a perfect finished product but are developed and continuously improved in the open, thereby incorporating new features on a regular basis (O'Reilly, 2005). One prominent example of an organisation making use of 'perpetual beta' is Google, the characteristics of which Osimo (2008b, p.18) argues incorporate the values central to 'Web 2.0' where:

'User feedback is necessary to ensure maximum usability of the applications. Usability is important because these applications rely on user contributions. Therefore take-up is not only an index of success, but often a condition for the continued existence of the service delivered.'

The process of online application and service development therefore becomes a process involving customers/users and organisations in which the customer is the central focus and through which conversation between customer and organisation is maintained. This is a marked transformation from the more traditional Web 1.0 processes in the context of government websites where the ability of customers to impact on design or content was not sought, very limited and sometimes actively

discouraged. Google services, from its search engine to its email alternative Google Wave, regularly incorporate new features which are then monitored to see how they are used. Whilst this enables the quick development of new features, Google did receive some criticism for its 'launch now, fix later approach' when its introduction of Google Buzz caused some privacy concerns (Ars Technica, 2010).

Osimo (2008b) and O'Reilly (2005) argue one of the most significant features of the use and development of online services amongst leading edge companies, under the rubric of Web 2.0, is the consumer as producer/co-developer; or the user as active participant. With the development of wikis, blogs and social networking (such as YouTube and Twitter) individuals are not only able to upload their own personalised content, but also to contribute through mass collaboration and conversation to the creation, and maintenance, of sites such as Wikipedia.

Questions have been raised about the quality of such sites' content and the economic, cultural and political implications as 'amateurs' replace some traditional 'professional' roles, thereby challenging notions of expertise, experience, talent, and truth (Keen, 2007). Despite such questions, the success of services such as Wikipedia is not only demonstrated in the claimed quality of the end product (Giles, 2005), but also in its popularity as a resource (Chen, 2009) and through the number of people who have contributed to it. Wikipedia is currently edited by approximately 300,000 editors every month (Wikipedia, 2010).

While there is evidence of a significant role for the consumer as producer, Osimo (2008b, p. 19) suggests that there are varying degrees of user involvement, from those directly involved in producing online content to those who, simply by using the web, '*...provide input and intelligence that is transformed by Web 2.0 applications into services for other users...*' by companies such as Amazon.

A number of organisations have incorporated users' desire to contribute and share their experiences, a process that adds value to the service for both customers and organisations. For example, customer reviews on Amazon and Lovefilm can be seen as good examples of embracing user contributions to the benefit of the site as a whole.

Another example is the use of Application Programming Interfaces (APIs) that ease the interaction between an online web service and another piece of software, and have been a key feature of many successful web services. APIs have enabled organisations to grow by enrolling the expertise and enthusiasm of external individuals and organisations. This can clearly be seen recently in the case of Twitter (now an essential customer-facing communication tool in many large organisations) as the API has enabled the creation of software to run on multiple platforms and the inclusion of rich media content and interactivity on top of Twitter's basic messaging service (Stevens, 2008).

As 'Web 2.0' approaches to engaging with customers become more widely established amongst leading companies and organisations, the next incarnation of the web is already being discussed and developed. For many, the suggested

next stage of development of the web is often referred to as the 'semantic web' (Markoff, 2006; Lassila and Hendler, 2007; Hendler, 2008), a web that is able to describe things in a way that computer applications can understand, or a web able to associate meaning with content. The potential of a semantic web was widely publicised in 2001 (Berners-Lee and Hendler, 2001; Berners-Lee, Hendler, and Lassila, 2001), but some have questioned whether it will ever become widely adopted, whether it will be limited to a small group of organisations, and which leading edge organisation will be the first to invest in this latest web development.

4.2 The international experience of e-Government

The development of citizen-focused provision of online government services can be seen in a number of industrialised countries; Canada, the United States and Singapore in particular are often viewed as having established well-implemented and well-performing systems of e-Government (Flumian, 2007; Guardian, 2007; National Audit Office (NAO), 2007a). It is widely recognised that, whilst the UK has made considerable progress (and compares well with many EU countries), many aspects of its delivery of e-Government is some way behind these three 'leading lights' in this area. This section explores the delivery of e-Government in Canada, the United States, Singapore and the UK.

4.2.1 Canada

Canada is generally considered to have one of the most established citizen-centric services, with Canadian citizens interacting with its provision of key services online, over the phone, and in one of its 620 service locations. Indeed, Canada has been named as the world leader in the provision of e-Government (Accenture, 2006, 2009; NAO, 2007a).

The Government Online (GOL) service in Canada was launched in 1999 and completed in 2006 and was a central component of the Canadian Government's strategy for delivering and organising services and information according to the needs of citizens or in a 'citizen-centric' way (Underhill and Ladds, 2007). Service Canada, the one-stop portal for government service delivery, was established in 2005 and was committed to:

'Placing the needs, expectations and priorities of citizens and communities at the centre of design and delivery of services.'

(Flumian, 2007: p.43)

The key objectives of the portal; which is delivered online, over the phone and face-to-face, are to deliver a seamless citizen-centred service through an integrated, one-stop service based on citizens' needs and to work as a collaborative, networked government by developing whole-of government approaches to service, enabling information sharing and integrated service delivery for the benefit of citizens (Service Canada, 2009: p.5).

The Service Canada website has witnessed a significant growth in the number of visits since its establishment in 2005. In 2007/08, the site had 26.6 million visits, compared with 5.4 million in 2005/06. As may be anticipated, as use of the website and the range of transactions that can be conducted online has increased, there has been a decline in the number of telephone calls received by Service Canada, from 58.6 million in 2005/06 to 51.1 million in 2007/08 (Service Canada, 2009: p. 44). However, the report by EKOS (2008) states that the phone generally remains the dominant method of contact between citizens and Service Canada although users seeking information about Employment Insurance are more likely to report using the internet (EKOS, 2008: p.6).

Levels of satisfaction amongst users of the Service Canada website are high. In a 2008 survey (EKOS, 2008: p. vii) 84 per cent of users stated that they were satisfied with the service offered by the website. A similar proportion agreed that the website had the information they were looking for when they visited and 70 per cent stated that the information they required could be found easily.

In addition to a wide range of other services, the *Service Canada* site provides online access for job searching and for the application of employment-related benefits, particularly Employment Insurance. Branded with the *Service Canada* name, the JobBank.gc.ca site allows users to search for employment but also to advertise their own expertise to potential employers and receive emailed lists of suitable vacancies. The site also contains a range of personalised employment tools, offering assistance to users in career planning, CV writing and assisting users in identifying their learning styles, work preferences and abilities.

Through www.servicecanada.gc.ca users are able to apply for Employment Insurance (EI) services in an increasingly personalised way. Through a service called My Employment Insurance Information Online (MEIIO), clients are able to:

'Receive information on their current and previous EI claims...to change their mailing address, telephone number and direct deposit banking information.'

(HRSDC, 2009)

More broadly, through individual accounts on Service Canada, users are able to:

'View and update their Canada Pension Plan and Old Age Security information, access the My Employment Insurance Information Online, view and update their Canada Pension Plan Statement of Contributions, and view tax information slips for Canada Pension Plan, Employment Insurance, and Old Age Security benefits.'

(Service Canada, 2009: p.10)

Online application of benefits has become the channel of preference for claimants and in 2007/08 almost all EI applications (95.4 per cent) and EI bi-weekly report cards (99.5 per cent) were administered digitally. Further, adjudications about 23 per cent of initial claims and 52 per cent of renewal claims were automated (HRSDC, 2009). It is also expected that within two years *Service Canada* will automate the processing of up to 70 per cent of all EI claims.

Whilst satisfaction with *Service Canada* services is overall very high, satisfaction with EI and Employment Assistance is lower than some other areas, at 78 per cent and 76 per cent respectively (EKOS, 2008), although this remains a relatively high satisfaction rating.

4.2.2 The United States

The United States is generally considered to have been at the centre of the development and evolution of the internet, and the:

'Federal government has been a key adopter of internet technologies as a useful way of integrating services across distant locations.'

(NAO, 2007a: p.38)

At a national, centralised level, the US has developed a central portal (usa.gov and Spanish language counterpart GobiernoUSA.gov) which aims to provide information about government and connect users to a range of federal, state, local and tribal government services, such as job searches and careers services. Govbenefits.gov provides citizens with a single portal through which to locate and establish their eligibility for government benefits and services. As with e-Government services in Canada provided through servicecanada.gc.ca, usa.gov has seen a rapid increase in users accessing the site, with 84 million visitors in 2006 compared to 14 million in 2001 (NAO, 2007a: p. 38).

The commitment to delivering government services online is supported by the *President's Management Agenda* (Accenture, 2009: p. 128) which ensures that the \$60 billion dollars of annual investment in IT and online provision is focused on improving government's ability to provide citizen-centric services across government and to adopting a multi-channel approach (Accenture, 2009). The US e-Government Act of 2002 created a structure through which to deliver an e-Government strategy and manage and oversee the implementation of key e-Government initiatives such as *Recreation One-Stop*, *GovBenefits.gov*, *Online Access for Loans*, *USA Services* and online filing of tax returns (Lee *et al.*, 2005: p.101).

4.2.3 Singapore

Singapore is also seen as being at the forefront of the development of e-Government and online service delivery (Accenture, 2006). Indeed, *E-citizen*, Singapore's e-Government portal is seen as offering one of the most developed examples of integrated service delivery amongst the world leaders in e-Government.

The *E-citizen* portal (ecitizen.gov.sg), like *Service Canada* and usa.gov, provides a single point of access to government information and services and enables users to conduct a large number of transactions online. The Singaporean iGov2010 strategy clearly articulates a citizen-centric approach to service delivery, with government agencies encouraged to:

'Move beyond seeing themselves as separate and distinct entities, and to consider themselves as "One government" that collaborates, shares information, and leverages on its collective knowledge to provide the public with integrated services – conveniently, continuously, and speedily.'

(Ke and Wei, 2004: p.97)

While the provision of e-Government in Singapore is clearly viewed as a success by many observers, it is important to recognise that Singapore is a highly technologised culture with high levels of access to the internet, a society with only one level of government rather than federal, state and local government structures, and a strong sense of civic collectivism (Ke and Wei, 2004: p.99). Consequently, many of the obstacles to implementing seamless e-Government that may exist in other developed countries are not apparent in the experiences of Singapore.

4.2.4 UK e-Government

The UK government is widely regarded as moving towards a citizen-centric approach to e-Government service delivery, most notably by:

'Improving delivery of public services by designing them around the needs of the citizen or customer, not the provider.'

(NAO, 2007a: p.4)

Indeed, as in the case of Canada, the US and Singapore, the commitment of the UK government to move towards citizen-centric delivery of public service online is clearly evidenced through the establishment of two key 'supersites' (Directgov.uk and businesslink.gov). These act as portals for users to access information and increasingly conduct a wide range of transactions online, although they do not yet have anything like the functionality of their overseas counterparts.

As part of this shift, a NAO (2007a) report, examining government progress to delivering information and services online, reported that the large number of government websites could cause confusion to individuals and businesses. In response to this, the report notes that:

'Current government policy seeks to reduce the number of government websites by: (i) concentrating behind main department domain names and eliminating other less-used domain names; and (ii) moving main service delivery and related information provision functions over time to two government supersites, Directgov orientated to citizens and businesslink.gov.uk orientated to firms and enterprises.'

(NAO, 2007a: p.29)

To this end, of the 951 government websites available in 2007, the Cabinet Office identified 551 websites for definite closure and only 26 that would definitely remain online (BBC News, 2007a, 2007b; NAO, 2007a). More recently, the government set itself the target of closing more than 95 per cent of its citizen- and business-facing websites and moving content and services to Directgov and

Businesslink.gov by 2011 (Department for Culture, Media and Sport (DCMS) and Department for Business, Innovation and Skills (DBIS), 2009). As an example of this, the online services offered by the DVLA moved to Directgov in 2006 (NAO, 2007a).

Directgov was set up in 2004 and replaced the *UKonline* website. Since then, the amount of information and number of online services it provides has steadily grown as the site has developed. There are now a significant number of forms, tools and transactions listed on Directgov, enabling citizens to, for example, pay court fines, claim child benefit and book driving tests. Responsibility for the site was transferred to the Department for Work and Pensions (DWP) in 2008 where it is now centrally funded, rather than being maintained by contributions from individual user departments (House of Commons Committee on Public Accounts, 2008).

Jobcentre Plus content and Jobsearch were made available on Directgov in February 2009, and from April 2010 the original websites automatically re-direct customers. In their report on the way in which DWP communicates with customers, the NAO (2009) reported that an increasing number of customers are visiting Directgov in order to look for information concerning employment opportunities, *Jobcentre Plus* initiatives and employment benefits. However, the report notes that customers looking for information about, for example, what unemployment benefits they may be entitled to could not necessarily access this information quickly and easily (NAO, 2009).

It is noted that Directgov is committed to reviewing usage of the site and updating search engines. However, in the transition period until all content is transferred to the central web location there will continue to be a mixture of different pages, in different formats. Consequently, quick and easy access to information in some important areas may continue to be more difficult (NAO, 2009).

The single point of access provided by Directgov is seen by many commentators as a key feature in the provision of an effective, citizen-focused online offer and also allows for more successful branding and marketing. The Directgov service has been the subject of a television advertising campaign in an effort to make it more widely known and used (e.g. BBC News, 2009b) and it also conducts regular market research on the public's perception of their brand and recognition of their website. In part, this is a reflection of the fact that it has been long recognised that Directgov needs to further develop and strengthen its brand recognition (NAO, 2007a).

The citizen-focused approach to online service delivery at the heart of the development of Directgov, which builds service delivery around the convenience of the customer rather than the provider, has been recognised. The Capgemini report (2007) on *Benchmarking the Supply of Online Public Service* (as per NAO, 2007a) notes that the UK is committed to building service delivery around the customer, not the convenience of the provider. In addition, in order to improve the quality

of service delivery, the UK has committed to a process of joining up government services, instead of expecting customers to visit several different government sites. The report stated that 89 per cent of basic public services were currently available online in the UK and that online service provided through Directgov operates as a 'sophisticated' level, moving towards what is referred to as 'pro-active service delivery' where:

'Government pro-actively performs actions to enhance the service delivery quality and the user friendliness.'

(NAO, 2007a: p.11)

This report positioned the UK above the European average in terms of its pro-active, citizen-centric service delivery. Indeed, in 2009, Capgemini reported that UK online service provision, principally through Directgov is 'highly usable'. The report emphasises usability, user satisfaction, monitoring of online services and the one-stop-shop approach as highlights of e-Government within the UK. The report also notes that in terms of ensuring user satisfaction:

'...the United Kingdom is one of the few European countries that engage with stakeholders before actually putting services online. The so-called 'power of information' and 'customer journey mapping' approaches aim to better understand the daily life of users and the impact service use has on this, in order to design and adapt e-Government services adequately before their launch.'

(Capgemini, 2009: p.139)

Capgemini (2009) report that Directgov now has over 15 million visitors each month and amongst the major government department websites Directgov was the most frequently visited in 2006/07 (NAO, 2007b). The available statistics point to a noticeable increase in the use of Directgov since July 2006. Table 4.1 shows the current usage levels for the three months to March 2010 (Directgov Web statistics, 2010) and two snapshots taken in March 2007 and July 2006. Visits are defined as a series of page impressions (requests to load a single page of a website) delivered to users, and page impressions are defined as a file, or combination of files, sent to a user as a result of their request.

Table 4.1 Direct visits to www.directgov.uk only

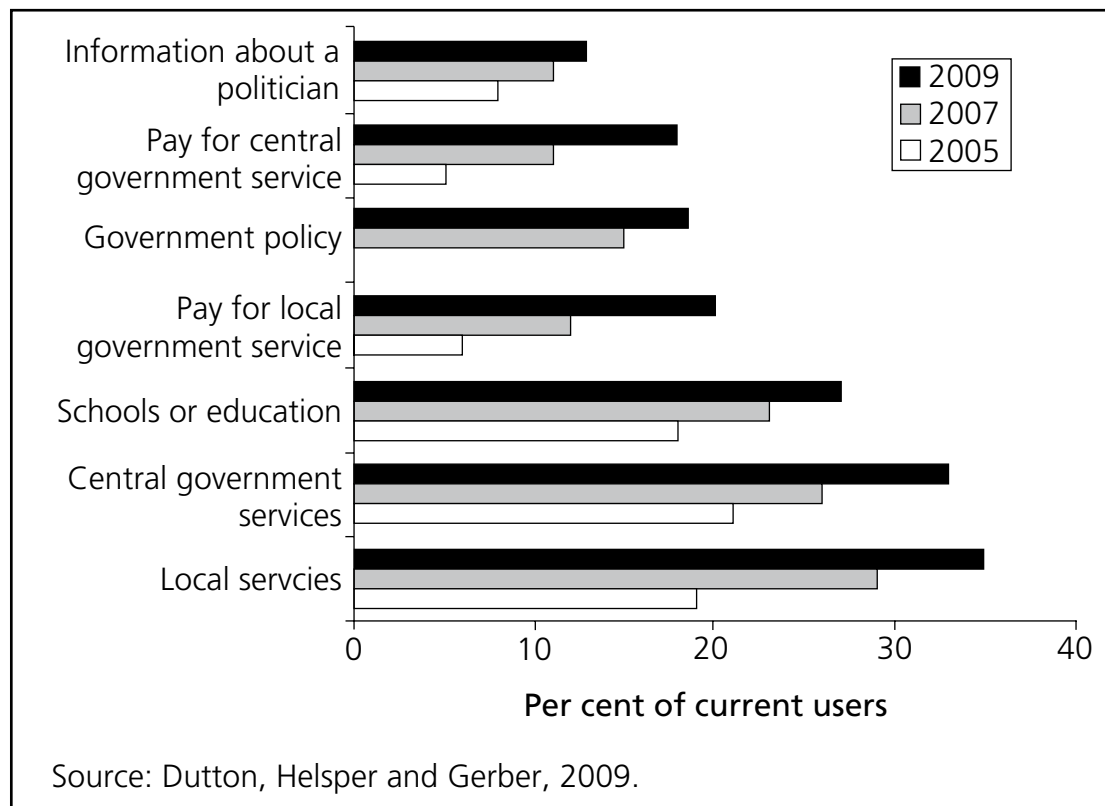
Month	Visits (millions)	Page impressions (millions)
January 2010	15.28	59.2
February 2010	14.15	54.1
March 2010	16.29	61.2
March 2007	5.3	33.8
July 2006	2.8	19.3

Source: Directgov Web Statistics, 2010.

Not all visitors to Directgov arrive at the site directly; some access Directgov content through other partner sites, such as the now inactive Jobcentreplus.gov.uk. If all visits to Directgov and its related websites are counted, this gives a visit count of 27.5 million (January 2010), 25.8 million (February 2010) and 29.2 million (March 2010).

While Directgov usage continues to rise, there has also been steady growth in the general use of online or e-Government services at local and national level. In 2009, almost six in ten (59 per cent) of the UK population reported having undertaken at least one activity related to government online, this compared with nearly four in ten (39 per cent) in 2005. Users accessing government services online in 2009 most commonly looked for information about local services (35 per cent) and central government services (33 per cent), although a sizeable proportion also looked for information about government policy (19 per cent) or how to pay for a central government service or fine (18 per cent). In all categories, as shown in Figure 4.1, there has been a steady increase in the uptake of these services since 2005 (Dutton, Helsper and Gerber, 2009).

Figure 4.1 Use of online government services



The House of Commons Committee on Public Accounts (2008) has also monitored the progress and performance of UK government websites. In late 2006 and early 2007, Directgov was available 98 per cent of the time and also met government accessibility standards in its format and presentation. Government accessibility standards include allowing users to change the size of text on websites, making all online content readable and comprehensible, and providing text-based alternatives for non-text content.

However, whilst the public are making more use of e-Government services in general, and accessibility requirements were considered as being met, analysis by Coll (2009) of Directgov's content and ease of navigation indicates that:

'Online surveys of visitors to Directgov shows 35 per cent of people are unable to find everything they want...a high proportion for a site whose key purpose is to help people find what they need.'

(Coll, 2009: p.8)

Further, while there was a large amount of information available, actual online services where users could transact their business were much more limited. Coll looked at four categories of transactions that visitors to Directgov may wish to complete online:

- complaints about a service;
- reporting something from a community (e.g. a suspected benefit cheat);
- applying and registering for help (e.g. maternity costs); and
- making a payment (e.g. a court fine).

She found that in these categories, 25 transactions that could be completed online, but 51 transactions either needed forms to be downloaded, printed and filled in, or a password would be sent to the user before a service could be accessed. She suggests further that the 25 transactions which could be completed online, including buying a fishing rod licence and reporting suspect activity to MI5 *'does not come across as a coherent set built around consumers' real priorities'*. As such, it is clear that there is room for improvement in the sense that Directgov could better gain an understanding of and meet the needs of its users. However, commentators such as Coll concede that:

'The pressure of delivering Directgov's target of amalgamating websites has compromised an assessment of what consumers would reasonably expect to be able to do on a public service website.'

(Coll, 2009: p.13)

While there are evidently problems with the extent to which services are truly being delivered online (rather than via an online starting point), there is a range of services which are heavily used by the public which can be undertaken wholly online. Prominent amongst these are vehicle licence taxation, registering to vote, and the filing of tax returns; in 2010, 6.2 million people filed their tax returns online (BBC News, 2010a).

Public transparency and openness of information about decisions and actions (Heeks, 2008), is an increasingly important part of online government services. Further, not only has transparency been found to be highly correlated with customer satisfaction of government services (Freed, 2010), but also much of this data is thought to have commercial value. The UK government's website for publishing public data (in particular Linked Data) at Data.gov.uk, is a relatively recent offering, having been launched in January 2010 (BBC News, 2010b); it is heralded as being in the vanguard of citizen-focused services.

4.3 Comparing the provision of online services

4.3.1 Comparing e-Government services internationally

International comparisons of e-Government services have been the subject of a number of studies, both at a European and global level. While these have primarily focused on measuring and assessing the provision of government services online, there is increasing recognition of the need to include user-perceptions and demand-side benchmarking, as well as an acknowledgement of the need for alternative measures of effectiveness such as government transparency.

In the eighth report to date commissioned by the European Commission into the provision of e-Government services across Europe, Capgemini (2009: p.3) state that '*User experience is now recognised as being an essential gauge to the take-up of online services*'. The report goes on to emphasise the need to measure not only the services delivered online, but also the use of these services:

'There is no use in delivering e-Government services if these are not used or do not deliver the expected benefits to users. The end results must reflect the outcome they deliver for citizens, businesses and government itself.'

(Capgemini, 2009: p.40)

The emphasis on including user experiences in the measurement of e-Government effectiveness draws attention to the importance of the public sector adopting the customer-centric vision of leading edge private sector organisations. Under this model:

- (i) without customers and an emphasis on the customer experience, private sector organisations are likely to fail; and
- (ii) without citizen involvement and use and an emphasis on the experience of the citizen, online service delivery through e-Government may also fail.

In their comparison of e-Commerce and e-Government, Scholl *et al.*, (2009: p.1) suggest that:

'While the expansion of e-Commerce was overwhelmingly driven by the profit and excellent customer service motivation, e-Government initiatives were driven by the motivation to serve citizens and to involve and let them participate.'

and furthermore that:

'Creating and understanding a customer experience is more likely to be found in e-Commerce than creating and understanding a citizen experience in e-Government.'

(2009: p.7)

The Capgemini (2009) report looked at the provision of 20 basic e-Government services (including, for example, social security benefits, job search and income taxes), e-Procurement services, and the user experience for the 27 European Union member states and Croatia, Iceland, Norway and Switzerland.

The availability of 20 core public services has been the cornerstone of the European Commission's benchmark measurements since 2001, with online sophistication and full online availability of e-Government services in member states assessed against a five-stage maturity model. The model is designed to denote how both businesses and individual citizens interact with government.

- Stage one is the online provision of information.
- Stage two is one way interaction between government and citizen/business, for example, downloadable forms.
- Stage three is two way interaction, for example, electronic forms.
- Stage four is transaction, for example, full electronic case handling.
- Stage five is targetisation (previously 'personalisation' (Capgemini, 2007)), where services are fully automated.

The UK government compares well with established indicators of e-Government readiness and development (Capgemini, 2009; Economist Intelligence Unit, 2009; United Nations, 2010). Indeed, the most recent study reported that the UK was one of four countries within the EU (along with Austria, Malta, and Portugal) that have full online availability of the 20 basic services. While the UK fared less well in terms of the sophistication of its basic services (ranking 8th), it nonetheless scored 93 per cent for the sophistication of its citizen services and 95 per cent for the sophistication of business services. Within the EU then, the provision of e-Government services in the UK is amongst the most sophisticated and comprehensive. This is particularly true in terms of publishing public data online, and it is argued that the UK is well positioned to become a world leader in the transparent provision of data to users: for example, as already noted, through the data.gov.uk site.

This said, the report's authors acknowledge (Capgemini, 2009: p.3) that the measures of 'online sophistication' and 'full online availability' are becoming ineffectual and there is a need to refresh the way in which the effectiveness of e-Government across the European Union is measured. For this reason, measures of e-Procurement and user experiences were introduced into the 2009 report. The measurement of user experience was based on five indicators:

- **accessibility** (is the national portal accessible to disabled people?);
- **usability** (can users chose a variety of channels to access the site; is there a help function; can they track progress; and are privacy policies explained/advertised?);
- **user satisfaction** (do sites allow for user feedback and reporting of feedback?);
- **one-stop-shop approach** (how many of the 20 basic services are available through the principal portal?); and
- **user-focused portal design** (how easy is it to locate the required information and how are the sites structured?).

Using these criteria, Capgemini (2009: p.139) report that UK government websites are 'highly usable', in that:

'...they score particularly well on Usability, User Satisfaction Monitoring and One-Stop-Shop Approach. Accessibility of the national portal and the segmentation of information (according to e.g. target groups and life events) assessed through the User-focused Portal Design metric and the web crawler are on track.'

They have also suggested that future benchmarking could benefit from including contemporary topics, focusing around life events and transparency. Whilst focusing around life events is more akin to the provision of services envisioned in future service delivery (Varney, 2006), the adoption of additional categories could be thought of as papering over the cracks of a flawed approach by potentially subjecting it to administrative whims at particular points in time. Transparency, however, would seem to be a potential indicator that has far more in common with increased user expectations and the perceived future of content delivery. Whilst Capgemini (2009: p.55) feel that there are currently not robust enough metrics available, there is a growing number of investigations into the potential of transparency indicators (e.g. Osimo, 2008a; Freed, 2010).

4.3.2 Rating the UK in a global context

The United Nations' (2010) e-Government rankings provide a sense of the position of online provision of government services in the UK in a global context. These take into account a wider set of indicators than the provision and usability of web services as they are a:

'Comprehensive scoring of the willingness and capacity of national administrations to use online and mobile technology in the execution of government functions.'

(United Nations, 2010: p.109)

Crucially, the rankings rate the performance of national governments relative to one another rather than being a measure of absolute effectiveness. The UK is ranked 4th overall, 4th for its online service provision, and 4th for e-participation.

The United Nations (2010) e-readiness rankings, alongside the Capgemini (2009) report emphasise the importance of transparency:

'...the real potential of e-Government lies in the free sharing of government information based on common standards, otherwise known as open data services.'

(United Nations, 2010: p.2)

In recent years there have been moves throughout the world towards the opening up of data, most noticeably in the US (data.gov) and the UK (data.gov.uk), and making the data already available online easier to locate and access. Whilst there are no established benchmarks as to who is in the lead on this particular front, The Economist (2010) sees the US as having taken the lead. It is important, however, to take into consideration the format of the published data (Robinson *et al.*, 2009). Compared with the USA, the UK government places a greater emphasis on Linked Data (Berners-Lee, 2009). This enables datasets from a variety of sources to be linked and data moved from one part of the web to another without being locked into one particular online service, consequently breaking down the data silos that are inherent in Web 2.0 (BBC News, 2009a). As a consequence of this emphasis, the UK may take the lead as a result to it (for example) re-publishing certain government data sets in a Linked Data format on the Data.gov.uk website and making these data available for users to 'do with what they will'. It will, of course, depend on how these data are used and how much more data are made available – and how useful users find it – how the relative importance of this aspect of data provision turns out to be. What it indicates for Jobcentre Plus, however, is the potential for letting users outside the organisation access and manipulate its data for the mutual benefit of Jobcentre Plus and its customers.

In a dynamic, evolving environment such as the web there will always be difficulties in selecting appropriate and salient indicators to measure the effectiveness of e-Government and online service provision; by the time widespread agreement regarding benchmarks is reached, they are likely to have become ineffectual or outdated (Capgemini, 2009). As such, it is unsurprising to find some organisations, such as Accenture (2009) moving away from quantitative comparisons towards qualitative case studies.

Whilst the United Nations suggests the importance of a common set of agreed e-Government indicators (United Nations, 2010), reduction of the evaluation of e-Government to a single global index is considered potentially risky in that it may encourage governments to work towards specific, measurable criteria rather than embracing innovation and delivering better services for their customers. This has led to the suggestion that government transparency and the availability of public data are more appropriate methods of benchmarking (Osimo, 2008a), alongside qualitative assessments of expectation and satisfaction amongst customers/users.

4.3.3 Comparison of UK Government with private sector provision

The public sector is often considered, by some at least, as being synonymous with inefficiency and a lack of motivation to be innovative (Irani and Elliman, 2008) and it has been suggested that there is a growing gap between the level of service expected by customers, because of innovation in the private sector, and the reality of the provision of e-Government services (Deloitte Research, 2008).

The UK is not exceptional in facing the challenge posed by developments and innovations within the private sector. In their report on customer user perceptions of US federal government and e-business websites, Morgeson and Mithas (2009) state that:

'Federal e-Government websites are not yet, in the aggregate, providing the same level of quality as their e-business counterparts.'

(2009: p.741)

A report by the NAO (2007a: p.15) suggests that while the public in the UK are generally satisfied with government websites, many departmental and agency sites compared unfavourably with:

'...participants' experiences of commercial sites, especially banks and travel sites...they found department and agency sites hard to navigate, particularly when arriving at the homepage. Internal search engines, in particular, were found to be unhelpful in finding the information being sought.'

In their report on *Leadership in customer service*, Accenture (2009) assess the performance of UK e-Government services according to four critical principles found in organisations achieving high performance through customer service – that is, whether they:

- adopted a citizen-centric vision;
- used a variety of channels to provide information and services;
- integrated services at national, regional and local levels; and
- actively reached out to their customers.

In spite of a commitment to citizen-centric online service delivery, Accenture reported (2009: p.127) that UK e-Government has not developed:

'The additional mechanisms for turning citizen-centricity into something bigger than well-designed individual services – namely, an overall better relationship between citizens and their government that promotes working cooperatively to identify and build broad, positive societal outcomes.'

They do however highlight the innovative e-petition site, part of the Prime Minister's website (petitions.number10.gov.uk) as a very successful way in which citizens are encouraged to participate actively in political life, and as evidence of the potential for e-Government in the UK to engage citizens not only in online

service use (through, for example, online transactions and information provision), but also as co-producers of online content through active participation.

As with the comparison of UK e-Government services and those in other countries, it is important to distinguish between the delivery of such services and the transparency of government data. Whilst the UK government may be considered to be following the private sector in terms of the embracing of Web 2.0 technologies, increasing government transparency potentially offers the opportunity for government services to move beyond the offering of the private sector and their concerns about competition.

Whilst it is too early to determine how the UK government compares, the hiring of Tim Berners-Lee to oversee the process of opening up public data, and re-publishing of data according to Linked Data principles, nonetheless demonstrates the seriousness of the current government's intent. It could also be argued that this is reflected in Jobcentre Plus commissioning this review of the evidence on the e-Government issue before commencing in earnest on making concrete plans for the delivery of their 'digital offer'.

4.4 Delivering effective e-Government

It is evident that the provision of e-Government, and online service delivery echoes the emphasis on maximising the value and effectiveness of online services both for users and companies adopted by leading edge organisations. This is principally apparent through the commitment to the citizen-centric or focused provision of government online, where service delivery is driven by the needs of users rather than government.

However, while there are clear examples of successful e-Government initiatives, there is some scepticism concerning the ability of national governments to fully embrace developments in information technology and online inter-agency working. In his report to the International Social Security Association, O'Shea (2007) suggests that the full provision of online social security services is dependent on the integration of services and agencies, that is:

'Collaboration, seamlessly in the customer's experience, by different units or organisations dealing with different aspects of a person's needs.'

(O'Shea, 2007: p. 17)

He also suggests more generally that too often there is a 'wait and see' policy to the embracing of information technologies (ITs) throughout the world, with governments delaying strategic IT projects and innovations in the hope that a more stable online environment will emerge. However, the only certainties in respect of technological change are that:

- 1 it will continue;
- 2 it is unpredictable; and
- 3 the climate is increasingly dominated by user (rather than government) generated content.

This is a key issue that the UK government (and Jobcentre Plus in particular) must accept and embrace if they are to make progress on delivering their services online.

The National Audit Report (2006b: p.5) *Delivering successful IT-enabled business change* summarises the importance of developing and implementing IT projects within the public sector. For millions of citizens and thousands of businesses and civil society organisations, the ability to find relevant government information via the internet and to accomplish public service transactions online is perhaps the most radical extension of access to public services as a whole for several decades. For example, just under half (45 per cent) of online accesses to government websites occur outside 'normal office hours' in the evenings or weekends, and so could not take place by phone or office visits.

For government and taxpayers, providing information and processing transactions online can also be much more cost-effective than conventional forms of service delivery such as call centres, mailed-in forms or office visits. However, the long list of expensive, unsuccessfully implemented, late-running government IT projects (Whitfield, 2007) captures the public's attention much more than those that may be considered successful. Indeed the list of prominent failures does draw attention to the difficulties inherent in successfully implementing IT projects. Reflecting this, the NAO (2006b) produced a list of nine key questions for government departments embarking on major IT-enabled business change:

- Is the board able to make informed judgements about the department's capacity to manage change?
- Does the department have in place a decision making structure that will ensure strong and effective leadership of the IT-enabled business change?
- What incentives exist to drive performance?
- Does the department have the necessary programme management skills?
- What is the natural division of duties between the Programme and Project Management Centre of Excellence and the Chief Information Officer?
- How will the department establish and promote an open and constructive relationship with suppliers?
- How clear is the department about the business process that it is seeking to change or develop?
- Does the technology exist to deliver the change?
- Beyond immediate technical success, how will wider benefits be secured?

Whilst such a list primarily focuses on a top-down approach, engaging all employees in IT-enabled change is equally important; the report on HM Revenue and Custom's transformation programme (NAO, 2008: p.20) emphasised, *'[the] importance of empowering staff to influence the change, and the role of senior management in 'championing' the changes'*.

Especially important in the promotion of customer satisfaction is the engagement of front line staff (Seijts and Crim, 2006), including those delivering web services (HM Government, 2007). Difficulties occur, however, in getting staff to buy-in when there are significant changes. This was evidenced, for example, when commentators suggested replacing the concept of 'customer-focused services' with 'citizen-focused services' (Richter and Cornford, 2007; Varney, 2006). From this standpoint, customer-focused services are restricted to a specific agency's view of the individual, whereas citizen-focused reflect all the dealings an individual has with public services, through a range of different, often unconnected government agencies (Varney, 2006). Varney does not see citizen-focus as currently being part of the culture of many government departments:

'Focusing on the citizen and engagement with users in the design and delivery of services is at a relatively early stage for many departments and needs to move much further and faster.'

This is similar to the findings from the empirical work of Richter and Cornford (2007):

'When the term citizen was suggested, it was rejected.'

Over recent years there has been increasing interest in employee engagement and recognition that employees who are enthusiastic about their work are more likely to do a good job (Kular *et al.*, 2008). However, it is argued that low morale and poor leadership have accompanied the recent transformation of HM Revenue & Customs (HMRC), which has affected its performance (BBC News, 2010). It is unsurprising that many employees will be less than enthusiastic about the adoption of technologies when one of the stated aims of the service transformation is a reduction in staff numbers (NAO, 2008). There is therefore a need to include incentives; Lawler and Worley (2006) emphasise the need to reward a willingness to change in organisations and this is an issue that will face Jobcentre Plus, particularly in the current economic climate.

During the adoption of leading technologies there is often a need for Government to bring in outside agencies, which can introduce further problems. In a survey for the International Social Security Association, many respondents *'expressed dissatisfaction with the levels of expertise available and the knowledge transfer achieved'* (O'Shea, 2007) in IT programmes within social security programmes. In contrast, the adoption of Web 2.0 technologies offers a ground-up approach to the implementation of more user-centric services within organisations, and encouraging employee contributions to the development and implementation of online service delivery is one way of encouraging employee engagement (Seijts

and Crom, 2006) and further the active involvement of customers. On the other hand, organisations may feel as though they are losing control (Osimo, 2008b). As successful adoption of online services is about the adoption of values, not just technologies, it is important to get staff on board.

4.5 Key points

- A customer-focused vision has been at the heart of a number of recent success stories in 'leading edge' organisations and has changed public perceptions of the internet. Whereas previously successful organisations **broadcast** information about products and services to customers, the internet is now recognised as an environment in which **communication** takes place. However, despite the various emergent web technologies in place to help organisations engage and converse with users, many traditional organisations – such as financial services and government – are struggling to catch up.
- The UK is not exceptional in facing the challenge posed by developments and innovations in private sector online provision. It is widely recognised that countries such as Canada, the United States and Singapore have longer-established, well-implemented and well-performing systems of e-Government; however, the UK compares favourably according to established indicators of e-Government readiness and development. In addition, UK provision is regarded as amongst the most sophisticated and comprehensive. This said, many aspects of its delivery of e-Government remain some way behind these three 'leading lights'.
- To ensure comparability with the 'one-stop' or single portal model which is widely regarded as the optimum means of delivering effective e-Government, Jobcentre Plus will need to ensure it delivers its services across the whole of the Directgov 'super-site'. It must also ensure seamless delivery of its online, phone and face-to-face services in a way that meets its customers' needs and expectations. A core consideration illuminated by this review is that issues that apply to Jobcentre Plus apply equally (and possibly more crucially) to Directgov. International experience in respect of e-Government and 'leading edge' organisations is that having a detailed and ongoing understanding of the needs and preference of its users is critical to success. Clearly, Jobcentre Plus cannot act alone and is subject to the constraints of the way in which the Directgov portal is being developed. It is, perhaps, inevitable that there will be tensions in this process given that Directgov is still in the 'transitional' state between being a 'super-site' and being a unified whole of government portal.
- UK e-Government is particularly highly rated in terms of making (in particular Linked) public data available online, and it is argued that the UK is well positioned to become a world leader in the transparent provision of data to users through the data.gov.uk site.

- One area of concern in relation to the provision of e-Government is that national governments and agencies are often considered reluctant to fully embrace developments in information technology and online inter-agency working and thereby 'making a call' on their plans for current provision and future ambitions. This has often resulted in government agencies adopting a 'wait and see' policy and delaying strategic IT projects and innovations in the hope that a more stable online environment will emerge. However, the only certainties in respect of technological change are that it will continue, it is unpredictable and the climate is increasingly dominated by user (rather than government) generated content.

5 Conclusion

This review has aimed to provide Jobcentre Plus with an evidence based foundation to help it develop its strategy to transform the way in which it delivers its services in the future. This concluding chapter brings the key issues together and offers some thoughts on the implications for Jobcentre Plus as to, how it might:

- respond to current and projected levels and means of access to the internet in the UK;
- improve the 'customer appetite' and willingness to use the internet, particularly among its customers who are potentially digitally excluded; and
- learn lessons from the way in which online services have been provided by 'leading edge' organisations and the way in which e-Government has developed internationally and is developing in the UK.

5.1 Responding to online access and technological developments

Access to the internet for its customers will be the key determinant of the extent to which Jobcentre Plus can successfully deliver its services digitally over the next few years. Access issues relate to both the availability of an adequate service coverage and take-up. Despite progress in both areas over recent years, significant geographical and socio-economic variation remains. The Universal Service Commitment (USC) to faster broadband connection speeds will extend coverage and increase the number of people who are able to make full use of Jobcentre Plus digital services.

- Although lack of access to higher speed broadband is a significant issue for the delivery of Jobcentre Plus online services, the Universal Service Commitment (USC) to provide universal broadband access (of 2 Megabits per second (Mbps) initially) by 2012 should allow Jobcentre Plus to confidently develop its digital services, with the prospect that most of its customers will be able, given their willingness, skills and personal circumstances, to access them from almost anywhere in the UK. However, it will also be important that Jobcentre Plus considers how it will deliver its services to people in rural and disadvantaged areas (and notably in Scotland) where take-up remains low.

Internet-capable mobile devices allow another way of accessing the internet and are increasing in importance. For some, this is the preferred or the only available means of accessing the internet. Speed and ease of access is determined by the type of device. Whilst 3G services are not universal they offer the capability to interact with e-Government services. The ownership of 3G capable devices is expected to rapidly increase over the next two or three years. Meanwhile, 4G network capability and devices are currently being trialled which potentially offer broadband speeds far in excess of most current fixed connections.

- Currently, only a minority of people in the UK use their mobile phones to browse the internet. However, as ownership of such devices increases and 3G coverage expands, Jobcentre Plus should have ambitions to increase the level of sophistication and complexity of services it wishes to deliver via this route (and/or which are delivered by others on its behalf) in the short- to mid-term.
- Given the likely importance of mobile internet access, two particular issues arise that Jobcentre Plus (and government more generally) would need to actively consider if it is to make provision of this nature: (i) whether network providers will argue that it is not economically viable for them to invest in providing services to rural and less populated areas without government assistance (as in the case of the agreement over the fixed line USC); and (ii) whether the cost of accessing services online, particularly for people on limited incomes and using 'pre-pay' tariffs, will remain a significant barrier to them accessing Jobcentre Plus services, or whether it might be possible for Jobcentre Plus to work with network providers to make accessing core government sites more affordable: for example, by enabling job seekers to access job search services outside of their data tariff charges.

The willingness of (potential) Jobcentre Plus customers to engage with the internet and online services varies. Whilst gender differences have largely disappeared in recent years and there is little difference between people in different ethnic groups, older people remain less likely to use the internet. This poses a problem as many older people see 'the internet' as something they have no interest in or, having tried it, feel it has little to offer them. In addition, many people from disadvantaged backgrounds continue to be less likely to be able to use the internet, either due to lack of connection or capability. Whilst 'migrating' people who have little interest in using online services is difficult, it is important to recognise that this is likely to be a declining problem as younger cohorts move through the system. It is equally important to recognise that, as online provision of public services becomes the norm, the risk of entrenchment of digital exclusion could increase.

- Jobcentre Plus can be confident that it can plan its services on the basis that, over time, more people will be willing and able to access them online. Of course, ongoing provision also needs to be made in the shorter-term, in particular to enable its customers to access education, training and job-search provision and also to enable them to access benefits and support to which they are entitled. In particular, current non-users, reluctant users or those who lack the knowledge or skills to access online services will require an integrated approach to be in place (either directly or through local partners). This should incorporate flexible, affordable local access to the internet as well as well publicised training initiatives.

New web technologies and the plethora of digital devices using different platforms offer a complex range of new routes through which Jobcentre Plus can engage with customers digitally and through which their services can be delivered. These developments have taken place during a period in which some of the most effective innovations have occurred when providers of digital services have moved from a 'hierarchical' to a more 'user generated' model of service design. This means that, in many cases, service providers have had to relinquish the notion that an online service can simply be provided 'as is' and have put in place a model where the relationship between them and their customers (and agencies) is one involving a more on-going dialogue characterised by partnership working.

- Current and emerging developments in digital technologies may encourage people to access e-Government via internet-enabled devices with which they are familiar (such as internet-enabled televisions or games consoles) and this reinforces that, whilst current provision needs to be made according to how people currently access the internet, Jobcentre Plus ought to have ambitions for the future in terms of their services being made through a broad range of devices.
- With so many potential platforms and technologies available, and numerous different ways of engaging with customers, it is not realistic – nor desirable – for Jobcentre Plus to do everything itself. In recognising this, there is real potential for Jobcentre Plus to tap into the skills and abilities of external organisations for the design and delivery of applications, services and resources in new and innovative ways. As more public datasets are made available online, it is likely that there will be growing calls for Jobcentre Plus data to be made available, so that they can be used by such as employment/recruitment agencies or third sector organisations who help people access training or employment. This would be likely to generate applications that in-house developers might not have considered (and enable stakeholders to realise economic benefit from selling their services). In addition, it could be a highly (cost) effective and flexible means of delivering online services, which may allow Jobcentre Plus to divert some resources towards meeting the needs of some of its harder to help/reach customers.

- The increasing popularity of social networking sites, and their agreements with mobile phone companies, provides new opportunities for Jobcentre Plus to embed their services in users' everyday lives and to enable their customers to be more active in their engagement with online services and resources. For example, whilst traditionally people may have set time aside for job seeking, there is now the opportunity for it to be carried out alongside more social activities. These could include engaging with friends on such sites as Facebook or to having potential jobs 'pushed' out to them (for example through SMS text messages) rather than expecting the user to regularly carry out job searches themselves. However, there is a note of caution on this – if Jobcentre Plus is to engage with these social media itself, it is important that this engagement is in real-time, has dedicated resources available and is a maintained (rather than ad hoc) presence.

5.2 Responding to customer expectations and addressing barriers to participation

There is a clear and increasing demand for the option of accessing government services online. However, many users of government websites report that information is often not presented clearly and sites are (often extremely) difficult to navigate. In addition, the experience of using many websites is one where accessing the service online did not enable transactions or requests to be completed without telephone or postal follow-up. The fact that the reality of the online experience does not always meet users' expectations often leads to confusion and frustration and ultimately may lead to disengagement.

- If Jobcentre Plus is to achieve its goal of delivering an improved service in a cost effective way, it is important that its services are designed with customer expectations and needs in mind. Undertaking a critical review of its processes would help Jobcentre Plus to achieve outcomes such as (i) ensuring communications between it and its customers maximise the use of online methods, (ii) ensure any follow-up occurs within a time that customers consider reasonable and (iii) information already provided is re-used as much as possible. Otherwise, there is the risk that people engaging with the 'online offer' may disengage. Jobcentre Plus could then find that demands on more traditional services do not decrease in line with expectations and that the potential cost-savings associated with online provision are not realised.
- A clear recognition is needed that many Jobcentre Plus customers (or potential customers) may be reluctant to migrate to the online channel. Rather they may prefer more 'conventional' modes of interaction, particularly for transactions such as making a benefit claim or for support in their job-search. Allied to this preference, online centres are clearly important in ensuring that advice and training designed to meet the needs of those at greatest risk of digital exclusion continues.

- However, Jobcentre Plus might consider options for encouraging independent support in accessing online services via agencies such as Sure Start, employment and training organisations and third sector organisations as part of wider moves towards a more community/user based approach. Ensuring that access to online provision is maximised ought to enable Jobcentre Plus to channel its resources (where appropriate through other organisations/agencies) to provide the more bespoke face-to-face or telephone contact with the customers who need to use their services by these methods.

For people who do not have access to, or the skills to use, internet-based services, the increasingly pervasive presence of the internet in many aspects of modern life leaves them vulnerable to further disadvantage and exclusion. In addition, there is considerable risk that organisations moving towards digital provision of services in order to 'streamline' the way in which they communicate with or provide information to their customers or service users overlook their needs and preferences. As a consequence, unless specific actions are taken, their opinions are unlikely to inform the development of the provision of services that are intended to support and help them.

- It will be important to the success of its online service delivery that Jobcentre Plus places a clear requirement at the centre of its plans for service transformation that provision must meet the needs of those who can access services online themselves as well those of customers who may not have direct access to online services or who cannot access these services without support.
- Ensuring the balance between this requirement and the financial realities of its operations will require ongoing and meaningful research and consultation with a wide range of its customers, particularly those from traditionally excluded groups and people who may find accessing digital provision difficult unless their needs have been taken into account in the design and implementation. Not doing so could further entrench the disadvantage experienced by those 'hardest to reach/help'.

Another critical issue for all of government in encouraging people to use online services relates to the extent to which people are content to share personal information with government digitally. There is clear evidence that many Jobcentre Plus customers want to be able to update their details and communicate digitally, but also that many others have significant concerns and others still have significant barriers to being able to do so. It is clear that concerns over security of data provided to government, the transmission of personal data, and the security issues surrounding storage of personal information on their own digital devices may reduce the likelihood that people will be willing to engage with online services and as such need to be addressed if Jobcentre Plus is to deliver its services online successfully.

- Clearly, Jobcentre Plus cannot act alone. However, if it is to meet its aims, it will need to play a part in the role of government in ensuring data security both on its own systems and on the devices people use to access its services. This may require Jobcentre Plus (or government as a whole) taking an active role on issues around the provision of anti-virus/spyware technology to prevent security breaches and the compromise of data on their customers' own devices (in the same way as financial companies are increasingly doing through such applications as Visa Verification, Rapport and Shibboleth).
- Jobcentre Plus will need to be active in raising awareness and provide support/training for people (in particular, those on low incomes, with limited technical capabilities) about online safety and security on an ongoing basis. Otherwise, reports of security breaches or cases of identify fraud involving benefit recipients could have a considerable negative impact on how citizens view engagement with e-Government. Even though responsibility for specific security issues that arise may not in fact lie with government, events such as these could easily undermine the whole shift to e-Government and the take-up of online services by Jobcentre Plus.
- In order to overcome some specific access and security issues, particular attention will need to be paid to the way in which services are provided in public environments (such as libraries, educational institutions and internet cafés). To overcome some of the barriers – such as users not being permitted to install accessibility software – it may be that Jobcentre Plus (and government more generally) seek to revise/amend Web Access Initiative guidelines and the provisions in equality legislation in relation to the design of public-facing websites/online services and for the provision of computer equipment in public places in order to ensure that the structural barriers to access are addressed or removed.

5.3 Learning the lessons from business and international e-Government in the UK context

A customer-focused vision has been at the heart of a number of recent success stories in 'leading edge' organisations and has changed public perceptions of the internet. Whereas previously successful organisations broadcast information about products and services to customers, the internet is now recognised as an environment in which communication takes place. However, despite the various emergent web technologies in place to help organisations engage and converse with users, many traditional organisations – such as financial services and government – are struggling to catch up.

The UK is not exceptional in facing the challenge posed by developments and innovations in private sector online provision. Although it is widely recognised that countries such as Canada, the United States and Singapore have longer-established, well-implemented and well-performing systems of e-Government,

the UK compares favourably according to established indicators of e-Government readiness and development. In addition, UK provision is regarded as amongst the most sophisticated and comprehensive. This said, many aspects of its delivery of e-Government remain some way behind these three 'leading lights'.

The 'one-stop' or single portal model is widely regarded as the optimum means of delivering effective e-Government. This is characterised by seamless delivery of its online, phone and face-to-face services in a way that meets customers' needs and expectations (most notable in respect of the ability to conduct transactions rather than only access information). The provision of online public services in the UK has been undergoing a dramatic transformation in recent years. The transformation of Directgov, from a government 'supersite' to a unified whole of government portal with increasing transactional capabilities, is clearly to be welcomed. However, in respect of individual public services such as Jobcentre Plus, their ability to innovate within the context of Directgov is clearly constrained and the potential for tensions inevitable. As such, many of the findings of this review as applied to Jobcentre Plus have more general application.

- If Jobcentre Plus is to deliver its services online successfully, it is important that it recognises from the outset that it needs to move away from an approach where customer impact on design or content is not sought, is limited or is discouraged to one where customers/agencies are actively engaged in developing and revising the way in which services and information is made available. This will be a significant culture shift, and not without risk (for example, if those involved are more focused on selling a particular (e.g. IT) product or service than improving service delivery for customers). However it will be a necessary adaptation if online services are to meet the expectations of people with experience of the provision made by 'leading edge' companies whose approach to online delivery is one of continuous improvement through co-production and decentralised use of data.
- Key to the success of the online services Jobcentre Plus offers will be ensuring that services offered deliver what customers expect – such as real time online access for accurate job searching, online application of benefits, pro-active contact with customers about relevant vacancies or training and tools which can be personalised and used to gain support in seeking and applying for jobs. Having a clear understanding of customer expectations will be a key element of this aspect of service delivery, as it will enable Jobcentre Plus to develop a strategy to manage customer expectations.

UK e-Government is particularly highly rated in terms of making (in particular Linked) public data available online, and it is argued that the UK is well positioned to become a world leader in the transparent provision of data to users through the data.gov.uk site.

- The UK government has the potential to move towards being a world leader in the digital provision of non-personal data and the enabling of external stakeholders and organisations to access and use these data freely. If this potential were realised, it could aid the transformation of Jobcentre Plus services in a more rapid and innovative way than could be achieved by Jobcentre Plus acting alone. The available evidence strongly suggests that the potential for letting users outside of the organisation access and manipulate its data would be mutually beneficial to Jobcentre Plus and its customers as well as offering potential economic value to stakeholders who provide additional services using these data.

One area of concern in relation to the provision of e-Government is that national governments and agencies are often considered reluctant to fully embrace developments in information technology and online inter-agency working and thereby 'make a call' on their plans for current provision and future ambitions. This has often resulted in government agencies adopting a 'wait and see' policy and delaying strategic IT projects and innovations in the hope that a more stable online environment will emerge. However, the only certainties in respect of technological change are that it will continue, it is unpredictable and the climate is increasingly dominated by user (rather than government) generated content.

- If Jobcentre Plus is to make progress on delivering on its commitment to make the most of technology and provide world class online services – as is the case for all other administrations and organisations – it is important to accept and embrace the concept of 'perpetual beta'. This will require that services are developed in line with the predominant current technologies and capabilities in mind (rather than what may be available in two, five or ten years); Jobcentre Plus should then work on an on-going basis with stakeholders to implement change over time. The sheer pace of change strongly reinforces the merits of making data available on a platform-free basis and enabling external organisations to manipulate them and provide additional services.

5.4 Comment

The overarching message from this wide-ranging review is that successful delivery of online services is about the adoption of values not just technologies.

It also sets out that, in order to maximise the likelihood of delivering successful online services, public service organisations such as Jobcentre Plus will need to ensure they put ongoing and meaningful engagement with customers, staff and stakeholders at the heart of their approach to developing an 'online offer'. It will also be critical that it plans to provide services at a level that is currently accessible to the majority of its customers and works closely with external stakeholders in a process of ongoing development to take advantage of future technological advances.

Some concrete examples of issues that Jobcentre Plus might consider in its thinking when developing its strategy for development of its online provision include:

- Maintaining a balance between meeting customer expectations and needs and the financial realities of Jobcentre Plus operations will require ongoing and meaningful research and consultation with a wide range of its customers.
- It may be mutually beneficial for government and network providers to work together to ensure newer generation (in particular mobile) services are provided to more rural and disadvantaged areas and whether there is scope for making access to core government sites more affordable to its customers.
- If those with least experience using online services are to be helped into education and employment or to access the benefits and support to which they are entitled – and digital exclusion is not to become more entrenched – it will be important that provision of tailored support and training focused on accessing services as well as flexible, affordable local access to the internet is maintained.
- Some thought on how public confidence in the security aspect of engaging in online transactions with government services is needed if concerns on this issue are to be overcome. In addition to issues surrounding its own systems, this may involve provision of or raising awareness of anti-virus/spyware technology and consideration of security and accessibility on public access devices.
- Working with external organisations to make data available to be manipulated in new and innovative ways to help people access training or employment could be a cost effective and flexible means of delivering online services which could release resources to meet the needs of harder to help/reach customers.

References

Accenture (2006). *Leadership in Customer Service: Building the trust*. Available at: http://www.accenture.com/xdoc/en/industries/government/acn_2006_govt_report_FINAL2.pdf [Accessed 12 April 2010].

Accenture (2009). *Leadership in Customer Service: Creating shared responsibility for better outcomes*. Available at: <http://www.accenture.com/NR/rdonlyres/14E4340B-4D2B-4147-9291-8FA94D8218E7/0/LCS08Report012109.pdf> [Accessed 12 April 2010].

Argos (2010). *Pay as you go mobile broadband*. Available at: http://www.argos.co.uk/static/BuyingGuide/bgTrail/mobile_broadband_00182.htm [Accessed 4 April 2010].

Ars Technica (2010). *Countries ask Google to drop "launch now, fix later" policy*. Available at <http://arstechnica.com/tech-policy/news/2010/04/countries-ask-google-to-drop-launch-now-fix-later-policy.ars> [Accessed 3 June 2010].

BBC News (2007a). *Government to close 551 websites*. Available at: http://news.bbc.co.uk/1/hi/uk_politics/6247703.stm [Accessed 12 April 2010].

BBC News (2007b). *The doomed government websites*. Available at: http://news.bbc.co.uk/1/hi/uk_politics/6252929.stm [Accessed 12 April 2010].

BBC News (2009a). *Sir Tim, the web and silos*. Available at: http://www.bbc.co.uk/blogs/technology/2009/04/sir_tim_the_web_and_silos.html

BBC News (2009b). *Government to spend £1m on website TV ad*. Available at: http://news.bbc.co.uk/1/hi/uk_politics/8436390.stm [Accessed 24 April 2010].

BBC News (2009c). *UK broadband 'notspots' revealed*. Available at: http://news.bbc.co.uk/1/hi/uk_politics/8068676.stm [Accessed 24 April 2010].

BBC News (2010). *'Low morale' hits HM Revenue and Customs*. Available at: <http://news.bbc.co.uk/1/hi/business/8557647.stm> [Accessed 12 April 2010].

BBC News (2010a). *Online tax returns 'popular ahead of deadline'*. Available at: <http://news.bbc.co.uk/1/hi/business/8491346.stm> [Accessed 13 April 2010].

- BBC News (2010b). *Tim Berners-Lee unveils government data project*. Available at: <http://news.bbc.co.uk/1/hi/technology/8470797.stm> [Accessed 12 April 2010].
- Becta (2010). *Home access*. Available at: <http://www.becta.org.uk/homeaccess> [Accessed 30 March 2010].
- Bell, L. and Trueman, R.B. (eds.) (2008). *Virtual Worlds, Real Libraries: Librarians and educators in Second Life and other Multi-User Virtual Environments*. Medford: Information Today.
- Bell, M.W. (2008). Toward a definition of 'Virtual Worlds'. *Journal of Virtual Worlds Research*, Volume 1, No. 1. Available at: <https://journals.tdl.org/jvwr/article/view/283/237> [Accessed 3 April 2010].
- Berners-Lee, T. (2009). *Linked Data*. Available at: <http://www.w3.org/DesignIssues/LinkedData.html> [Accessed 12 April 2010].
- Berners-Lee, T. and Hendler, J. (2001). Scientific publishing on the semantic web. *Nature*. Available at: <http://www.nature.com/nature/debates/e-access/Articles/bernerslee.htm>
- Berners-Lee, T., Hendler, J. and Lassila, O. (2001). The semantic web. *Scientific American*, May 2001.
- Boyd, D. and Ellison, N. (2007). Social Network Sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, Volume 13, No. 1. Available at <http://jcmc.indiana.edu/vol13/issue1/boyd.ellison.html> [Accessed 2 April 2010].
- Bryan Glick Computing (2009). *High-speed community broadband is breaking out all over*. <http://www.computing.co.uk/computing/news/2234315/speed-community-broadband> [Accessed 12 April 2010].
- BT (2010). *BT plans UK's largest ever investment in Super-Fast Broadband*. <http://www.btplc.com/news/Articles/ShowArticle.cfm?ArticleID=EFD7B1FA-52ED-45BB-B530-734FAC577E94> [Accessed 12 April 2010].
- Cabinet Office (2007). *Data handling procedures in government: Interim Progress Report* http://www.cabinetoffice.gov.uk/media/65934/data_handling.pdf [Accessed 23 April 2010].
- Canalys (2010). *Majority of smart phones now have touch screens*. Available at: <http://www.canalys.com/pr/2010/r2010021.html> [Accessed 20 April 2010].
- Capgemini (2007). *The User Challenge: Benchmarking the supply of Online Public Service*. European Commission.
- Capgemini (2009). *Smarter, Faster, Better eGovernment*. European Commission.

- CEG (2009). Consumer Expert Group report into the use of the Internet by disabled people: barriers and solutions <http://webarchive.nationalarchives.gov.uk/+/http://www.culture.gov.uk/images/publications/CEGreport-internet-and-disabled-access2009.pdf> [accessed 12 April 2010].
- Chen, H. (2009). The use and sharing of information from Wikipedia by high-tech professionals for work purposes. *The Electronic Library*, Volume 27, No. 6, pp. 893-905.
- Cnet News (2010). *Sony Bravia HX703, NX803, EX703: First TVs with Freeview HD on sale this week*. Available at <http://crave.cnet.co.uk/televisions/0,39029474,49305160,00.htm> [Accessed 3 June 2010].
- Coll, L. (2009). *Does Directgov deliver?* Available at: http://directgov.consumerfocuslabs.org/assets/uploads/2009/10/ConsumerFocus_Does-DirectGov-Deliver.pdf [Accessed 12 April 2010].
- Commission for Rural Communities (2009). *Mind the Gap – Digital England, a rural perspective*.
- Cross-Tab (2010). *Online reputation in a connected world*. Available at: http://www.marketingtecnologico.com/ad2006/adminsc1/app/marketingtecnologico/uploads/Estudos/dpd_online%20reputation%20research_overview.pdf [Accessed 24 April 2010].
- DCLG (2008a). *Delivering Digital Inclusion*. London: DCLG.
- DCLG (2008b). *Technology Futures and Digital Inclusion*. London: DCLG.
- DCLG (2009). *Government Response to: Consumer Expert Group Report into the Use of the Internet by Disabled People: Barriers and Solutions*. London: DCLG.
- DCMS and DBIS (2009). *Digital Britain: Final Report*. Available at: <http://www.culture.gov.uk/images/publications/digitalbritain-finalreport-jun09.pdf> [Accessed 21 April 2010].
- Deloitte Research (2008). *One size fits few: Using customer insight to transform government*. Available at: [http://www.deloitte.com/assets/Dcom-Portugal/Local%20Assets/Documents/pt\(en\)_pslshc_onesizefitsfew.pdf](http://www.deloitte.com/assets/Dcom-Portugal/Local%20Assets/Documents/pt(en)_pslshc_onesizefitsfew.pdf) [Accessed 12 April 2010].
- DfES (2005). *UK Online Centres and E-Government*, DfES Research Report 632. London: DfES.
- Digital Participation Consortium (2010). *Helping more people to get online*. Available at: <http://www.digitalparticipation.com/> [Accessed 29 March 2010].
- Diminescu, D., Hepp, A., Welling, S., Maya-Jariego, I. and Yates S. (2009). *ICT Supply and demand in immigrant and ethnic minority communities in France, Germany, Spain and the United Kingdom*. Available at: <ftp://ftp.jrc.es/pub/EURdoc/JRC52233.TN.pdf> [Accessed 21 April 2010].

- Directgov (2010). Web Statistics. Available at: http://www.directgov.uk/en/SiteInformation/DG_10036216 [Accessed 12 April 2010].
- Drever, A. I. and Hoffmeister, O. (2008). Immigrants and Social Networks in a Job-Scarce Environment: The Case of Germany. *International Migration Review*, Volume 42, No. 2, pp. 425-448.
- Drozd, A. (2009). *The future of PC/TV convergence*. Business Insights.
- Duryee, T. (2010). *Study predicts massive growth in mobile video*. Guardian.co.uk Available at: <http://www.guardian.co.uk/media/pda/2010/mar/31/mobile-video> [Accessed 2 April 2010].
- Dutton, W. and Helsper, E. of the Oxford Internet Institute on behalf of Communities and Local Government (2008). Digital Inclusion – An analysis of social disadvantage and the information society.
- Dutton, W. H., Helsper, E. J. and Gerber, M. M. (2009). *The Internet in Britain in 2009*. Available at: http://www.oii.ox.ac.uk/research/oxis/OxIS2009_Report.pdf [Accessed 30 March 2010].
- DWP (2007). *The challenges facing DWP in the future: Deliberative research with the public*. London: DWP.
- DWP (2009). *Building Britain's Recovery: Achieving Full Employment*, White Paper. London: DWP.
- DWP (2010). *Jobcentre Plus is Putting Europe's Largest Jobs Database in to People's Pockets with the Launch of the First UK Government Jobcentre App* [online]. Available from: <http://www.dwp.gov.uk/newsroom/press-releases/2010/march-2010/dwp042-10-100310.shtml> [Accessed 12 April 2010].
- Economist (2010). The Open Society: Governments are letting in the light In *Data, data, everywhere: a special report on managing information* http://www.economist.com/specialreports/displaystory.cfm?story_id=15557477 [Accessed 12 April 2010].
- Economist Intelligence Unit (2009). *E-readiness rankings 2009: The usage imperative*. Available at: http://www-935.ibm.com/services/us/gbs/bus/pdf/e-readiness_rankings_june_2009_final_web.pdf [Accessed 13 April 2010].
- EKOS (2008). *Service Canada 2008 Client Satisfaction Survey: Final report*. Available at: http://www.servicecanada.gc.ca/eng/about/por/pdf/client_satisfaction_report_2008.pdf [Accessed 12 April 2010].
- Ellison, N.B., Lampe, C. and Steinfield, C. (2009). Social Network Sites and Society: Current Trends and Future Possibilities. *Interactions*, Volume 16, No. 1, pp. 6-9.
- eMarketer (2009). Online Branding with a French Flair MAY 28. <http://www.emarketer.com/Article.aspx?R=1007102> [Accessed 12 April 2010].

- Flumian, M. (2007). Service Canada as Innovation. *Optimum Online*, Volume 37, No. 1, pp. 43-50.
- Freed, L. (2010). *The Inaugural Foresee Results' E-Government Transparency Index: Quantifying the relationship between online transparency and trust in government. ForeSee Results*. Available at: http://www.foreseeresults.com/research-white-papers/_downloads/ForeSeeResults_EGovTransparencyIndex_Q42009.pdf [Accessed 12 April 2010].
- Gartner (2009). Gartner newsroom: *Gartner says PC vendors eyeing booming smartphone market*. Available at: <http://www.gartner.com/it/page.jsp?id=1215932> [Accessed 21 April 2010].
- Giles, J. (2005). Internet encyclopaedias go head to head. *Nature*, 438, pp. 900-901. Available at: <http://www.nature.com/nature/journal/v438/n7070/full/438900a.html> [Accessed 12 April 2010].
- Granovetter, M. S. (1973). The Strength of Weak Ties. *American Journal of Sociology*, Volume 78, No. 6, pp. 1360-1380.
- Guardian (2007). *Service Canada cuts across boundaries to offer a one-stop shop*. Available at: <http://society.guardian.co.uk/transformationalgovernment/story/0,,2021777,00.html> [Accessed 12 April 2010].
- Guardian (2010). Frustration as Virgin's Wi-Fi service hits the buffers. Available at: <http://www.guardian.co.uk/money/blog/2010/mar/23/wireless-wifi-virgin-tmobile>
- Hall, S. and Pettigrew, N. (2007). *The challenges facing the DWP: Deliberative research with the public*. DWP Research Report No. 476.
- Heeks, R. (2008). *ICTs for Government Transparency: Definitions*. Available at: <http://www.egov4dev.org/transparency/definitions.shtml> [Accessed 12 April 2010].
- Hendler, J. (2008). Web 3.0: Chicken Farms on the Semantic Web. *Computer*, Volume 41, No. 1, pp. 106-108.
- HM Government (2007). *Service transformation agreement*. Available at: http://www.hm-treasury.gov.uk/d/pbr_csr07_service.pdf [Accessed 12 April 2010].
- HM Government (2009). *Putting the Frontline First: Smarter Government*. London: HMSO.
- House of Commons Public Accounts Committee (2008). *Government on the Internet: Progress in delivering information and services online Sixteenth Report of Session 2007-08*. Available at: <http://www.publications.parliament.uk/pa/cm200708/cmselect/cmpublicacc/143/143.pdf> [Accessed 24 April 2010].
- HRSDC (2009). *Service Delivery*. Available at: http://www.hrsdc.gc.ca/eng/employment/ei/reports/eimar_2008/chapter4_2.shtml [Accessed 12 April 2010].

- Ipsos MORI (2010). *What Do People Want, Need and Expect from Public Services?* London: Public Services Trust.
- Irani, Z. and Elliman, T. (2008). Creating social entrepreneurs in local government. *European Journal of Information Systems*. Volume 17, pp. 336-342.
- ISP (2009). ISP Review <http://www.ispreview.co.uk/story/2009/11/22/norfolk-might-not-meet-the-2mbps-uk-usc-broadband-target-by-2012.html> [Accessed 3 May 2010].
- Jobcentre Plus (2010). Business Plan 2010-2011. <http://www.dwp.gov.uk/docs/jbbp-1011.pdf> [Accessed 3 May 2010].
- Jobsite (2010a). *Jobsite trials new interactive service on Freesat*. Available at: <http://www.jobsite.co.uk/insider/jobsite-trials-freesat-interactive-service-4542/> [Accessed 25 April 2010].
- Jobsite (2010b). *The Jobsite guide to Twitter and job hunting*. Available at: <http://www.jobsite.co.uk/twitter.html> [Accessed 25 April 2010].
- Joinson, A. (2009). *Privacy Concerns, Trust in Government and Attitudes to Identity Cards in the UK*, 42nd Hawaii International Conference on System Sciences.
- Ke, W. and Wei, K. K. (2004). Successful E-Government in Singapore: How did Singapore manage to get most of its public services deliverable online? *Communications of the ACM*, Volume 47, No. 6, pp. 95-99.
- Keen, A. (2007). *The cult of the amateur: How today's internet is killing our culture*. Nicholas Brealey Publishing.
- King, S. F. and Brown, P. (2007). Fix my street or else: using the Internet to voice local public service concerns. *Proceedings of the 1st International Conference on Theory and Practice of Electronic Governance*. ACM International Conference Proceeding Series, Volume 232, pp. 72-80.
- Kular, S., Gatenby, M., Rees, C., Soane, E. and Truss, K. (2008). *Employee Engagement: A Literature Review*. Kingston Business School, Kingston University, Working Paper 19. Available at: <http://eprints.kingston.ac.uk/4192/1/19wempen.pdf> [Accessed 12 April 2010].
- Lassila, O. and Hendler, J. (2007). Embracing 'Web 3.0'. *IEEE Internet Computing*, Volume 11, No. 3, pp. 90-93.
- Lawler III, E. E. and Worley, C.G. (2006). *Winning support for organizational change: Designing employee reward systems that keep on working*. March/April 2006.
- Lee, S. M., Tan, X. and Trimi, S. (2005). Current Practices of Leading E-Government Countries. *Communications of the ACM*, Volume 48, No. 10, pp. 99-104.

Lips, A. M., Taylor, J. and Organ, J. (2009). Identity Management, Administrative Sorting and Citizenship in New Modes of Government, *Information, Communication & Society*, Volume 12, No. 5, pp. 715-734.

Locke, C., Levine, R., Searles, D. and Weinberger, D. (2000). *The Cluetrain Manifesto*. Basic Books.

Longley, P. and Webber, R. and Li, C. (2006). The UK geography of the E-Society: a national classification. CASA Working Papers (111). Centre for Advanced Spatial Awareness (UCL), London, UK.

Markoff, J. (2006). *Entrepreneurs see a web guided by common sense*. New York Times. Available at: <http://www.nytimes.com/2006/11/12/business/12web.htm> [Accessed 12 April 2010].

Marshall, J. (2009). *Active Home Internet Users by Country*, June 2009, ClickZ, <http://www.clickz.com/3634636> [Accessed 12 April 2010].

Mayo, E. and Steinberg, T. (2007). *The Power of Information*. Available at <http://www.uk-legislation.hmsso.gov.uk/advice/poi/power-of-information-review.pdf> [Accessed 2 April 2010].

Mobile Magazine (2010). *Smartphone sales up 30% in fourth quarter*. Available at: <http://www.mobiletoday.co.uk/News/news.aspx?id=63845&terms=smartphone+sales> [Accessed 30 March 2010].

Morgeson, F. V. and Mithas, S. (2009). Does E-Government measure up to e-business? Comparing end user perceptions of U.S. Federal Government and E-Business Web Sites. *Public Administration Review*, Volume 69, No. 4, pp. 740-752.

NAO (2006a). *Delivering successful IT-enabled business change*. [Volume 1] <http://www.nao.org.uk/idoc.ashx?docId=2FA55140-B619-460A-98A7-A37BD7748773&version=-1> [Accessed 12 April 2010].

NAO (2006b). *Delivering successful IT-enabled business change: case studies of success* [Volume 2] <http://www.nao.org.uk/idoc.ashx?docId=22700480-3339-446E-A455-CFB4FAD0CC03&version=-1> [Accessed 12 April 2010].

NAO (2007a). *Government on the Internet: Progress in delivering information and services online*. London: National Audit Office. Available at: http://www.nao.org.uk/publications/0607/government_on_the_internet.aspx [Accessed 13 June 2010].

NAO (2007b). *Government on the Internet: Progress in delivering information and services online – research report*. Available at: <http://www.nao.org.uk/idoc.ashx?docId=395ff59d-429f-40f4-bb9e-2af679d12662&version=-1> [Accessed 13 April 2010].

- NAO (2008). *HM Revenue and Customs' transformation programme*. Available at: <http://www.nao.org.uk/idoc.ashx?docId=E27DD844-A166-4CD4-9A80-E2BD930A4AFD&version=-1> [Accessed 12 April 2010].
- NAO (2009). *Department of Work and Pensions: Communicating with customers*. Available at: http://www.nao.org.uk/publications/0809/communicating_with_customers.aspx [Accessed 12 April 2010].
- Nielsen (2009). *News release*. Available at: http://www.nielsen-online.com/pr/pr_091110_uk.pdf [Accessed 4 April 2010].
- Nunn, A., Walton, F. and Jassi, S. (2009). *A qualitative study of satisfaction and dissatisfaction with Jobcentre Plus; an exploration of issues identified in the 2007 Customer Satisfaction Survey with a particular focus on those most likely to be dissatisfied*. DWP Research Report No. 575. Norwich: HMSO.
- O'Reilly, T. (2005). *What is Web 2.0: Design patterns and business models for the next generation of software*. Available at: <http://oreilly.com/web2/archive/what-is-web-20.html> [Accessed 2 April 2010].
- O'Shea, R. (2007). *ICT, instrument of social security transformation*. Available at: <http://www.issa.int/aiss/content/download/40611/789635/version/27/file/TR-01-2.pdf> [Accessed 12 April 2010].
- O2 (2009). *Huawei and Telefonica O2 UK trial live LTE services*. Available at: <http://mediacentre.o2.co.uk/content/Detail.aspx?ReleaseID=590&NewsAreaID=2> [Accessed 24 April 2010].
- OECD (2006). *Glossary of Statistical Terms: Digital Divide* <http://stats.oecd.org/glossary/detail.asp?ID=4719> [Accessed 3 May 2010].
- Ofcom (2008). *Media Literacy audit: Report on UK adults from ethnic minority groups*. Available at: http://www.ofcom.org.uk/advice/media_literacy/medlitpub/medlitpubrss/ml_emg08/ml_emg.pdf [Accessed 21 April 2010].
- Ofcom (2009a). *The consumer experience*. Available at: <http://www.ofcom.org.uk/research/tce/ce09/research09.pdf> [Accessed 29 March 2010].
- Ofcom (2009b). *Communications market report 2009*. <http://www.ofcom.org.uk/research/cm/cmr09/cmr09.pdf> [Accessed 29 March 2010].
- Ofcom (2010). *Wales to become UK's first digital TV nation*. Available at: <http://www.ofcom.org.uk/consumer/2010/03/wales-to-become-uks-first-digital-tv-nation/> [Accessed 30 March 2010].
- ONS (2009a). *Internet access households and individuals*. Available at: <http://www.statistics.gov.uk/pdfdir/iahi0809.pdf> [Accessed 30 March 2010].
- ONS (2009b). *National Statistics First Release, 20 February 2009* <http://www.statistics.gov.uk/pdfdir/intc0209.pdf> [Accessed 12 April 2010].

- Osimo, D. (2008a). *Benchmarking eGovernment in the Web 2.0 era: what to measure, and how*. European Journal of ePractice, Volume 4, August 2008. Available at http://portal.forumpa.it/files/documents/file/portal/docuemnti_editoriale/osimoepJ.pdf [Accessed 12 April 2010].
- Osimo, D. (2008b). *Web 2.0 in Government: Why and How?* JRC Scientific and Technical Reports, European Commission. Available at: <ftp://ftp.jrc.es/pub/EURdoc/JRC45269.pdf> [Accessed 12 April 2010].
- Richter, P. and Cornford, J. (2008). *Customer Relationship Management and Citizenship: Technologies and Identities in Public Services*. Social Policy & Society, Volume 7, No. 2, pp. 211-220.
- Ritzema, T. and Harris, B. (2008). *The Use of Second Life for distance education*. Journal of Computing Sciences in Colleges, Volume 23, No. 6, pp. 110-116.
- Robinson, D., Yu, H., Zeller, W.P. and Felten, E.W. (2009). *Government Data and the Invisible Hand*. Yale Journal of Law and Technology, Volume 11, pp. 160-175.
- Rosenblum, D. (2007). *What Anyone Can Know: The Privacy Risks of Social Networking Sites*. IEEE Security & Privacy, Volume 5, No. 3, pp. 40-49.
- Scholl, H. J.J., Barzilai-Nahon, K., Ahn, J-H, Popova, O. H. and Re, B. (2009). E-Commerce and e-Government: How do they compare? What can they learn from each other? In Proceedings of the 42nd Hawaii International Conference on Systems Science. Available at: <http://www.computer.org/portal/web/csdl/doi/10.1109/HICSS.2009.682> [Accessed 12 April 2010].
- Scoble, R. and Israel, S. (2006). *Naked Conversations: How blogs are changing the way businesses talk with customers*. John Wiley and Sons.
- Seijts, G. H. and Crim, D. (2006). *What engages employees the most or, The Ten C's of employee engagement*. Ivey Business Journal. March/April, 2006.
- Seka, E. (2010). *The future of PC/mobile convergence*. Business Insights.
- Service Canada (2009). *Service Canada Annual Report 2007-2008*. Available at: http://www.servicecanada.gc.ca/eng/about/reports/ar_0708/pdf/ar_0708.pdf [Accessed 12 April 2010].
- Sillence, E., Briggs, P., Harris, P. and Fishwick, L. (2006). *A Framework for Understanding Trust Factors in Web-Based Health Advice*, International Journal of Human-Computer Studies, Volume 64, No. 8, pp. 697-713.
- Sillence, E., Briggs, P., Harris, P. and Fishwick, L. (2007). *Health Websites that People Can Trust – the Case of Hypertension*, Interacting with Computers, Volume 19, pp. 32-42.
- Stevens, V. (2008). Trial by Twitter: *The rise and slide of the year's most viral microblogging platform*. The Electronic Journal for English as a Second Language, Volume 12, No. 1. Available at: <http://www.tesl-ej.org/wordpress/issues/volume12/ej45/ej45int/?wscr> [Accessed 12 April 2010].

Stone, M. (2009). Staying customer-focused and trusted: Web 2.0 and Customer 2.0 in financial services. *Database Marketing & Customer Strategy Management*, Volume 16, No. 2, pp. 101-131.

Stuart, D. (2009). Enterprise 2.0. *VIP Magazine*. 25 August 2009.

Stuart, D. (2010). Web 3.0 promises change for libraries. *Research Information*. Issue 45, February/March, pp.12-13.

Tapscott, D. and Williams, A. D. (2006). *Wikinomics: How mass collaboration changes everything*. London: Portfolio. Tapscott, D. and Williams, A. (2006) *Wikinomics*. London: Portfolio.

Telegraph (2009). *M&S to sell TV with iPlayer*. Available at: <http://www.telegraph.co.uk/technology/news/6760939/MandS-to-sell-TV-with-iPlayer.html> [Accessed 30 March 2010].

Thelwall, M. and Stuart, D. (2010). Social Network Sites: An Exploration of Features and Diversity in Zaphiris, P. and Ang, C. S. (eds.) *Social Computing and Virtual Communities*. Madrid: CINDOC. pp. 265-284.

Tufekci, Z. (2008). Can you see me now? Audience and disclosure regulation in online social network sites. *Bulletin of Science Technology Society*, Volume 28, No. 1, pp. 20-36.

UK Online (2010). *About UK online centres*. Available at: <http://www.ukonlinecentres.com/corporate/about-uk-online-centres/about-uk-online-centres.html> [Accessed 21 April 2010].

UK Online Centres (2008). *UK Online Centres Annual Review: August 2007 – July 2008*.

Underhill, C. and Ladds, C. (2007). *Connecting with Canadians: Assessing the Use of Government On-Line*. Statistics Canada.

United Nations (2010). *E-Government Survey 2010: Leveraging e-government at a time of financial and economic crisis*. New York: UN.

Urban, R., Marty, P. and Twidale, M. (2007). A Second Life for Your Museum: 3D Multi-User Virtual Environments and Museums, in Trant J. and Bearman, D. (eds.), *Museums and the Web 2007: Proceedings*, Toronto: Archives & Museum Informatics. Available at: <http://www.archimuse.com/mw2007/papers/urban/urban.html> [Accessed 2 April 2010].

Varney, D. (2006). *Service transformation: A better service for citizens and businesses, a better deal for the taxpayer*. HMSO. Available at: http://www.hm-treasury.gov.uk/d/pbr06_varney_review.pdf [Accessed 12 April 2010].

Wakefield, J. (2009). *UK broadband 'notspots' revealed*. Available at: <http://news.bbc.co.uk/1/hi/8068676.stm> [Accessed 30.03.10].

Wallop, H. (2009). *M&S to sell TV with iPlayer*. Available at: <http://www.telegraph.co.uk/technology/news/6760939/MandS-to-sell-TV-with-iPlayer.html> [Accessed 1 April 2010].

Whitfield, D. (2007). *Cost overruns, delays and terminations: 105 Outsourced public ICT projects*. European Services Strategy Unit. Available at: <http://www.european-services-strategy.org.uk/news/2007/ict-contract-chaos/105-ict-contracts.pdf> [Accessed 12 April 2010].

Wikipedia (2010). *Wikipedia: Wikipedians*. Available at: http://en.wikipedia.org/wiki/Wikipedia:Editor_statistics#Demographics [Accessed 12 April 2010].

WorldTVPC.COM (2009). *Internet enabled TV sets will account for 20% of the market in Europe by 2010*. Available at: <http://www.worldtvpc.com/blog/internet-enabled-tv-sets-account-20-market-europe-2010/> [Accessed 20 April 2010].

WSI Internet Market Trends Report (2009). available at: http://www.wsi-internetmarketing.co.uk/home/news_and_developments_blog/entryid/21/wsi-internet-marketing-trends-report-2009.aspx [Accessed 3 June 2010].

This wide-ranging literature review aimed to provide an evidence-based foundation to help Jobcentre Plus:

- understand and respond to the current and projected levels and means of access to the Internet;
- improve the 'customer appetite' and willingness to use the Internet, particularly among people who are potentially digitally excluded; and
- learn lessons from the way in which online services have been provided by 'leading edge' organisations as well as from the ways e-Government has developed internationally and in the UK.

The overarching message from this review is that successful delivery of online services is about the adoption of values not just technologies. It sets out that a strategy for successful delivery of online services needs to have the expectations and needs of current and potential users at its heart. It also makes clear that plans for provision need to focus on what can be done in the short-to-medium term with existing widely available technologies, and that working with external organisations is an essential element for developing successful provision in the future.

If you would like to know more about DWP research, please contact:
Paul Noakes, Commercial Support and Knowledge Management Team,
3rd Floor, Caxton House, Tothill Street, London SW1H 9NA

<http://research.dwp.gov.uk/asd/asd5/rrs-index.asp>