The Social Implications of E-commerce: a review of policy and research

Report Prepared for the Joseph Rowntree Foundation

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Abstract

In less than a decade since the advent of the World Wide Web the technology has started to become an integral part of modern society. Possibly quicker than any other technology before it (such as the car or the telephone) the Web has begun to impinge on everyday life for a vast majority of citizens in a very short space of time. The advent of this new technology has brought with it a whole new industry, language and potential new ways in which society, government and business will and are beginning to operate.

While multi-national businesses and the UK Government are encouraging the E-economy and on-line public service delivery important questions relating to access in the new digital age need to be addressed. So far there has only been limited research into the social implications of the new information and communication technologies (ESRC, 2000). The Government have also set up various task forces and projects to look at the socio-economic impacts (PAT 15, 2000) of these new technologies but further research is required.

Current research and policy initiatives on the potential impact of E-commerce and on-line shopping is the main focus of this report with particular reference to the implications of E-commerce for the consumer. While the aim of Government is to provide an inclusive virtual society steps need to be taken to ensure that those who face difficulties in accessing these new forms of technology are not excluded.

This report reviews current Governmental policy initiatives and research. One of the major problems facing research in this area is the simple fact that the technology and the forces who are promoting its use are moving so quickly that it is difficult to keep track of everything that is happening. It also needs to be emphasised that it is Central Government and large corporations which are the driving force behind implementing the technology and the services which are being put on-line. This is at a time when there is increasing evidence to suggest that not everyone wished to use and access services in this way.

1 Introduction

This report focuses on the implications of *E-commerce* for the consumer. While many studies have investigated the impact of E-commerce in the UK the focus so far appears to have been placed on the implications for government, business and regulators. Much less advanced are issues relating to the social, environmental and consumer concerns. This report aims to review current Government policy and research while highlighting current gaps in knowledge and direction in relation to the consumer.

1.1 What is the Internet?

It may be useful before defining E-commerce to first explain how the term became established and also explain the background to the Internet, the World Wide Web and the advent of what many are calling the virtual or digital society. These are all terms which are now in common use within our language but are often mis-interpreted. The Internet was first developed in the late 1960s from a US military network called ARPANET as a system which could link together several computers across the globe. It was envisaged that a globally interconnected set of computers would allow everyone to quickly access data and programs from any connected computer from anywhere in the World. It was not until 1983 that a properly working networked system was in place and mainly used by academics and scientists. At this stage the problem with using the Internet was that you required a certain level of computer literacy to find computers on the network. at this stage there was no graphical user interface as we are used to today with Web browsers such as Internet Explorer or Netscape.

In order to allow a more user friendly interface to the Internet, the World Wide Web (Web) was developed by a British scientist Tim Berners-Lee in 1990 while working at CERN, the European Particle Physics Laboratory. By 1993 the first Web browsers became available which were absolutely free. This was called Mosaic and was the pre-curser to the popular browser Netscape. The

Web allowed users to access pages by simply typing in an address which would connect to any computer in the world. Central to the concept of the Web was the use of hyperlinks, highlighted words or sentences, which would link to further pages either on the current Web site or to a Web site on another computer.

In less than a decade the Internet and the Web have become an integral part of modern society. Possibly quicker than any other technology before them (such as the car and the telephone) the Web has begun to impinge on everyday life for a vast majority of citizens in a very short space of time. This can be clearly demonstrated in the number of television and billboard advertisements which contain a reference to a Web address which only two years ago were non-existent. One only has to listen to BBC radio or television to be constantly bombarded with Web site addresses containing more information and services to compliment programs. The advent of this new technology has brought with it a whole new industry, language and potential new ways in which society, government and business will and indeed are beginning to operate and interact with one another. Within this vast array of applications and uses E-commerce is quickly becoming one of the dominant forces in the new virtual society.

1.2 What is E-commerce?

It maybe that the term E-commerce is not the most appropriate term to use when referring to consumer use of the Internet for making purchases. Consumers would not normally refer to carrying out commerce when they are purchasing goods and services in the traditional sense of making a purchase in a shop or on the telephone. In the world of the Internet E-commerce usually refers typically to business to business type activities rather than consumer activity. It maybe more appropriate to refer to consumer activity in relation to purchasing goods and services on the Internet as on-line shopping.

Strictly speaking E-commerce means carrying out transactions electronically, involving sales and purchases over the Internet, through on-line

access points on the Web and in the future more so using digital TV sets. According to the DTI's Web site the major benefits of E-commerce are that it can help organisations to:

- improve working processes and service delivery;
- understand their customers better; and
- reduce costs through elimination of paperwork and bureaucracy.

One of the important factors in the world of E-commerce is that it is much more than just a change in the way payments are made; E-commerce may not involve money at all. It gives customers the choice of making a wide range of transactions electronically rather than over the telephone, by post or in person.

From the perspective of Government, E-commerce is seen as providing better services to citizens and to business. It also allows public sector organisations to know more about their customers, to tell those customers more about their services and to build better relationships with them. It also provides more effective tracking of what the public really wants, services can be tailored to meet their specific needs by monitoring what types of transactions they make on-line. The extent to which this maybe seen as an infringement on civil liberties and to some extent the feeling that Government is watching the consumer with the consumer not necessarily realising it is something which is probably of great concern to consumer organisations. This is an important factor which JRF need to be aware. The type of information which can be collated through using E-commerce and on-line shopping can be used potentially to discriminate against different people at a much finer grain than has been capable with more traditional shopping and consumer activity.

Business to business use of E-commerce and e-business is growing rapidly. Citizens' take-up of its potential has been much slower but is expected to change dramatically with the availability of digital TV facilities. The telephone is already widely used for dealings with businesses such as the banking sector and many high street stores have 'call centre' help lines. Similarly, it is expected that citizens will choose the digital TV route for many of their

dealings with the public sector. E-commerce could allow citizens to carry out a wide range of electronic transactions from home, such as claiming benefits, paying tax or registering a birth. It could also become a preferred way of paying bills. Experience in the USA has shown that it is cost-effective for utilities companies to distribute set-top boxes free of charge to consumers to allow access to digital TV broadcasts.

The government has already indicated plans in recent policy statements for E-commerce applications. For example, they have suggested that:

- telephones, interactive television and multimedia kiosks will enable the public to find advice, make applications or fill in forms;
- there are implications for education services, public libraries and broadcasting;
- the government intends to modernise the welfare system and in particular to use new technology to serve customers better. There will be equally significant effects for other services such as healthcare;
- NHSnet, the NHS's own information superhighway, and the Internet will bring patients quicker test results, on-line booking of appointments and up-to-date specialist advice.

It is the Governments view that electronic payments and transactions can streamline the payment process between department but also between Government and its citizens. This raises many important issues relating to access to the technology as Government promotes the use of the new technology. While this may help to minimise debt delays which is a government target it may not be the most appropriate means for a vast number of citizens to undertake transactions. They envisage that payments could be made in a number of new ways as well as the current methods (these assume people have a credit or debit card) such as e-cheque, or digicash. These methods of course assume that citizens have a standard bank account which as the JRF commissioned Invisible Money report (Pahl, 1999) highlighted is not always the case and particularly for citizens who maybe receiving benefits from Government.

1.3 The main issues to consider

There are two important issues which need to be considered in relation to on-line shopping, purchases and transactions in relation to the consumer. These are *access* to on-line services and perceived concerns regarding *security*.

The issue of access to the Internet is an area which has received much attention over the past three years not just in relation to on-line shopping but across the whole Internet spectrum. There are numerous Government initiatives and policy documents covering this area which will be discussed later in the report, together with a number of academic studies which have focused on access issues. The National Consumer Council, the Consumers Association and various think tanks have also tackled the access issue and these are also highlighted later in the report. The predominant key issues relating to access which appears to have been highlighted across all the organisations mentioned above is that it is inevitable that business and Government see the digital society as the future. It appears inevitable that an increasing number of services will be delivered on-line whether that be commercial goods and services or Government business at the local and national level. The evidence and policy directions which have begun to emerge so far appears to be along three routes.

The Government route is very much in favour of promoting the Internet as a new medium for providing services to citizens and carrying out Government to citizen business on-line. They aim to have all Government services on-line by 2005. The DTI appear to be taking the lead on E-commerce and citizen services on-line while Policy Action Team 15 have investigated the social access issues through its Closing the Digital Divide document (PAT 15, 2000). The most important and substantial piece of academic research to date has been the ESRC's Virtual Society Programme (ESRC, 2000). The Programme which involved 22 inter-related projects in the UK investigated the impact new electronic information and communication technologies would have on the way citizens and society carried out their everyday lives. The Programme

which finished earlier this year identified some key issues which appeared to be counter intuitive to the dominant view being promoted by Internet service providers and the large corporations behind the Internet. These issues will be disused later in the report. Consumer organisations appear to be promoting the Internet particularly for the consumer but are mainly concerned with the types of issues such as consumer protection, security and access. In a sense they are highlighting the same issues as with any traditional form of shopping but from the view of carrying out electronic transactions as the recent Trading Standards campaign on Internet shopping identified. This is discussed below in relation to security issues.

The second key issue which is constantly highlighted as one of the reasons people are unsure about carrying out on-line shopping is security. Many people fear that their bank details will be used in an illegal manner. To overcome these fears people need to believe that the on-line systems are as secure as more traditional methods of electronic purchases. To a large extent purchasing on-line is no different to making a purchase in a shop with a credit or debit card and as these are the only current means of making on-line transactions some of the current fears are possibly over exaggerated. The main difference between purchasing on-line as opposed to in person is that the goods are not handed over at the time of purchase. In the vast majority of cases the goods are delivered by post and may not arrive for 48 hours and this inevitably causes anxiety. During October 2000 the Institute for Trading Standards Administration (ITSA, 2000) held a National Consumer Week which focused on shopping on the Internet. They produced a six page leaflet (see http://www.tradingstandards.gov.uk/) highlighting some of the pitfalls and providing advice on how to best go about making on-line purchases. The main thrust of the leaflet was that consumers should treat buying on-line in the same way as buying goods in the traditional way but make a few extra checks. Some of the issues to remember are:

- does the cost include postage and delivery;

- if the product is bought from another country, particularly electronic goods, will they work in the UK;
- where and when will the goods be delivered; and
- what is the return on goods policy.

While the focus of this report is in relation to the consumer view of E-commerce and on-line shopping the DTI have identified some key issues which need to be addressed from the service providers point of view. It is useful to highlight some of these issues as it gives an indication of what business and Government identify as some of the factors which they are currently considering. Having an understanding of what they are considering provides consumer organisations and JRF the opportunity to get to grips with some of these issues from the point of view of business. This may provide an opportunity to form a view and make representations on behalf of consumers in relation to some of these key issues. The DTI has identified the following questions in relation to E-commerce:

- how will the customer be identified?
- how will the customer know they are connected to the right service?
- how will the customer provide complex information?
- how will personal information be protected to meet the requirements of the Data Protection Act?
- how will contract terms be established?
- how will payments be made?
- how can both parties be protected against repudiation of transactions?
- how will cross-border (national boundaries) issues be handled?

Based on the main points highlighted by the DTI above it appears that they have some genuine concerns in relation to protecting the consumer. This is in itself a large research area which could warrant its own detailed study to identify what the concerns of Government are in relation to E-commerce and on-line shopping. It would appear that the recent campaign by ITSA have consulted and taken on board some of the DTIs concerns which suggests that

there is a concerted effort on behalf of the Government and consumer organisations to attempt to safeguard the consumer.

2 Governmental Policy Issues

A dearth of policy initiatives, objectives, targets and research initiatives are currently being undertaken at all levels of Government. The extent and exact nature of these policy issues varies from one governmental level to the next, but they all appear to have the common aim of increasing the amount of services and access which will be on-line. At the very highest level even the international G7 group of countries have policy initiatives relating to the Internet and the digital society. The Information Society has been an integral part of G7 policy since 1994 after a summit in Italy which called for the development of a worldwide information society. The European Union have an Information Society Initiative focusing on research and development and on a pan-European wide initiative to increase access. They are aiming to set standards on basic service provision levels for EU member states.

UK Government policy is arguably the most advanced of all the EU member States. Ever since the election of the Labour Government there has been a high emphasis on the importance of the information society. Indeed the Prime Minister and the Chancellor of the Exchequer appear to push the fact that the information society will be the corner stone of the UK economy and aims to lead Europe in the digital revolution. The extent to which this is taking place in reality would be an interesting piece of research to undertake as the rhetoric may not necessarily match the reality.

2.1 European Union Policy

The European Union initiative on the information society descends from the *eEurope - An Information Society for All*. This initiative, launched in December 1999 proposed ambitious targets to bring the benefits of the Information Society within reach of all European citizens. The initiative focuses on ten priority areas, from education to transport and from healthcare to the disabled. The initiative is a key element in the EU's strategy to modernise the European economy. The key objectives of the eEurope Initiative are:

- Bringing every citizen, home and school, every business and administration, on-line and into the digital age;

- Creating a digitally literate Europe, supported by an entrepreneurial culture ready to finance and develop new ideas; and

- Ensuring that the whole process is socially inclusive, builds consumer trust and strengthens social cohesion.

<div align="right">(Source: eEurope Initiative)</div>

In an attempt to achieve these objectives, the Commission proposed ten priority areas for action with ambitious targets to be achieved through joint action by all organisations, industry and citizens within Europe. The ten areas of action are:

- European youth into the digital age: bring Internet and multimedia tools to schools and adapt education to the digital age.

- Cheaper Internet access: increase competition to reduce prices and boost consumer choice.

- Accelerating E-commerce: speed up implementation of the legal framework and expand use of e-procurement.

- Fast Internet for researchers and students: ensure high speed access to Internet thereby facilitating co-operative learning and working.

- Smart cards for electronic access: facilitate the establishment of European-wide infrastructure to maximise uptake.

- Risk capital for high-tech SMEs: develop innovative approaches to maximise the availability of risk capital for high-tech SMEs.

- "eParticipation" for the disabled: ensure that the development of the Information Society takes full account of the needs of disabled people.

- Healthcare on-line: maximise the use of networking and smart technologies for health monitoring, information access and healthcare.

- Intelligent transport: safer, more efficient transport through the use of digital technologies.

- Government on-line: ensure that citizens have easy access to government information, services and decision-making procedures on-line.

<div align="right">(Source: eEurope Initiative)</div>

At this time it is too early to examine any tangible evidence to suggest how this initiative is progressing. The documentation on the eEurope Web site suggests that the EU have ambitious plans to roll out the Information Society across Europe. There are encouraging signs that they wish to make social exclusion and consumer issues a top priority through their educational programmes (Action Area 1) and through cheap Internet access (Action Area 2). They have three Objectives which are to be implemented under an Action Plan as follows:

- Objective 1 aims for a cheaper, faster, secure Internet;
- Objective 2 aims to invest in people and skills; and
- Objective 3 aims to stimulate the use of the Internet.

Under Objective 3 there is a specific aim to accelerate E-commerce and while the emphasis is on inter-business trading (so called business to business or B2B E-commerce), there is also an indication that the area of business to consumer interactions (B2C E-commerce) needs to be addressed. They identify that growth has been slower in this area but there is potential for this to grow. The Initiative highlights that B2C E-commerce poses some regulatory challenges due to variations in the legal situation which causes difficulties for companies, especially SMEs conducting business throughout the EU. They identify that consumer confidence needs to be enhanced if E-commerce is to achieve its full potential. They note that with regard to consumer confidence, the private sector is developing a variety of initiatives - trustmarks, privacy policy statements etc - but these are difficult for business and consumers to evaluate at the moment. There is therefore a need for common criteria and transparency within the EU. In addition, they believe that businesses and, importantly, consumer organisations are required to invest quite substantial efforts to develop self-regulation and alternative dispute resolution. It is believed that such efforts will only be undertaken in the presence of sufficient incentives for consumer organisations and business. The *eEurope* Web site can be found at http://www.ispo.cec.be/

2.2 UK Government Policy

This section of the report will outline Government policy and thinking in the area of E-commerce, on-line shopping and the consumer. As stated earlier the main thrust of Government policy is being taken by the DTI in relation to E-commerce and on-line shopping. Through the DTI's Information Age Web site (http://www.dti.gov.uk/infoage/index.htm) businesses can access information on how E-commerce will effect them. The focus is mainly on the business perspective of E-commerce although there is a section looking at citizens and consumers in the information age. The main thrust of the DTI Web site (http://www.dti.gov.uk/infoage/infoage.htm) and its guidance is *"to ensure that your company uses DTI support to exploit the opportunities of the Information Age"*. The DTI see E-commerce as one of the most exciting and dynamic features of the Information Age.

The DTI and other Government departments are coordinating their policy efforts through a number of important documents. The Government set out their vision for the information age in *"Our Information Age: the Government's vision"*. Since then there have been three major government policy statements aimed at realising the vision. These are:

- The *Modernising Government* White Paper in March 1999;
- The Competitiveness White Paper, *"Our Competitive Future"* in December 1998; and
- The report of the Performance and Innovation Unit, *"E-commerce@its.best.uk"* in September 1999.

At the same time there is also a division of the Cabinet Office which has been set-up to champion the cause of the Internet and the delivery of Government services on-line. The Office of the e-Envoy, headed by Alex Allen, and the E Minister, Patricia Hewitt, are at the forefront of Government thinking on the virtual and information society (http://www.e-envoy.gov.uk/). The Office of the e-Envoy aims to ensure that everyone in the UK who wants it will have access to the Internet, and to make the UK one of the worlds leading knowledge economies. The Office of the e-Envoy consists of three teams:

- e-Government: information age government;
- E-commerce: overall UK E-commerce environment; and
- e-Communications: government's on-line presence.

While the Government is very much behind promoting the development of E-commerce the emphasis is most definitely on helping business. Much less emphasis has been placed on issues which concern consumers. There appears to be a belief that the biggest issue for consumers is access and security. Very little information is provided regarding consumer rights in relation to E-commerce and on-line shopping on either the e-Envoy Web site or the DTI site. Under the E-commerce banner of the Office of the e-Envoy is an area referred to as *Confident People.* This has the objective of helping individuals and businesses to take full advantage of the opportunities opened up by information and communication technologies, and to ensure that those opportunities are available to all. In relation to individual consumers the Confident People initiative focuses on three areas:

- IT skills for our children and teachers;
- Lifelong Learning for the Information Age; and
- Access to all to the Information Age.

Once again there appears to be a lack of focus on issues which maybe of concern to consumers. Access and education appear to be the priorities for Government but just providing access and educating people in how to use the technology may not be the only requirements to convince consumers that on-line shopping and E-commerce are the future.

2.3 Major Government Policy Statements

Returning to the three major policy statements aimed at realising the Government's vision for the information age, the "E-commerce@its.best.uk", "Our Competitive Future" and the "Modernising Government" White Paper a common thread within all of them is the lack of emphasis on the consumer. All three policy documents focus on the need to encourage business to take a lead in developing E-commerce strategies. The main concerns of Government in

terms of the consumer relate to providing access and educating people in using the technology. This is similar to the information which is provided on the numerous Government Web sites relating to E-commerce and access to the information age.

2.3.1 Modernising Government

The *Modernising Government* White Paper published in March 1999 is central to the Governments aim of renewing and modernising the Government machine. One of the main commitments is that public services are available 24 hours a day, seven days a week by 2005. To achieve this aim the Internet will play an important role in providing the '24/7' concept of service delivery. This will undoubtedly have an impact on those citizens that face difficulties in accessing on-line services either due to a lack of access due to cost, education or physical location. The Information Age government is committed to the use of new technology and this will therefore have impacts for those who face difficulties relating to access.

2.3.2 Our Competitive Future

The Competitiveness White Paper, *"Our Competitive Future: building the knowledge driven economy"* was published in December 1998. This report is entirely focused on the business angle of E-commerce and the means by which the knowledge economy can be one of the cornerstones of UK industry for the next Century. There is very little implications in this report which directly relates to the consumer. This White Paper is an important document in the Governments strategy to develop a virtual society. The White Paper is still an important documents as it will have implications for other Government policy which will base policies on this white paper which may have implications for the consumer.

2.3.3 E-commerce@its.best.uk

The report of the Performance and Innovation Unit published in September 1999 sets out three key priorities for the UK to achieve a successful E-commerce economy. The emphasis throughout the report is related to business. The report touches on the fact that jobs may be lost as a result of E-commerce as businesses streamline their operations. At the same time it is expected that new jobs will be created in information brokerage and distribution and brokerage. This is highly likely if consumers begin to buy more goods and services on-line as they will need to have these delivered. This may have implications for land-use as high street stores shrink and large distribution centres are developed to coordinate the dispatching of on-line purchases. Further discussion of these issues is made in the Research Agenda section of the report.

The report continues its focus on how the UK could become the leading light in Europe by being a 'powerful and innovative' force so long as it can overcome three major challenges. These are understanding, access and trust. The report boldly states that for individuals

> *"a higher percentage of people in the UK will have access to E-commerce networks from home than in any other G7 country; the total cost of Internet access will be lower in the UK than in any other G7 country; and a higher percentage of the population will use multi-function smartcards than in any other G7 country".*

The report identifies four key barriers to E-commerce. These are foundations, understanding, access and trust. In relation to the consumer it is the latter two barriers which are most relevant. The access issue is played down slightly in that the report takes the belief that competition is driving down personal computer and software prices and that the BT monopoly on the local access system will open up competition for its use with new technologies and increased bandwidth (the capacity of computer networks to carry digital information). The current cost of an Internet ready computer is around the £400 level but this provides a very basic computer which would work slowly across the Internet. The cost of purchasing a PC is a major obstacle to many people

getting on-line. Similar to issues relating to telephone access it is the initial start-up costs which are the major barrier to going on-line.

The trust barrier focuses on the types of information which business can gain from consumers using on-line purchasing. Using on-line shopping facilities requires the consumer to provide vast amounts of detailed information. This can then be used by the businesses to build-up purchasing patterns to achieved highly targeted and effective follow up marketing. This immediately raises a potential conflict between personal privacy and existing business practice. Then again many people may prefer to receive targeted mailing rather than random literature on products and services they have no interest in. A further barrier is that of redress. Simple and appropriate means of dispute resolution need to be established for transactions that span continents. Effective means must be available to avoid unpleasant or offensive content and to limit the potentially expensive nuisance of unsolicited commercial e-mail commonly referred to as 'spam'.

On the whole it can be concluded that the *E-commerce@its.best.uk* policy statement has some bold aims but is focused on the economic benefits to the nation and encouraging business to take up E-commerce. The concern for the consumer is limited to issues of education, access and trust and further investigation is required to address some of the issues which JRF are likely to be concerned with.

2.4 Overall Policy Implications

The important issue in this and the two other main Government policy initiatives is to ensure that the drive to modernise services does not override the need to provide services to all citizens regardless of their ability to be able to access information on-line. JRF needs to be aware of these issues and needs to ensure that policy measures are taken so as not to allow certain sectors of society to become disadvantaged due to a lack of access to computers and telephones which are essential for people to operate in the information society.

In the next section of the report evidence from recent academic research is reviewed. Evidence suggests that Government and business view on-line shopping and E-commerce as similar to making traditional purchases when in fact evidence is suggesting that consumers view on-line purchasing in a very different way (Lunt, 1999).

3 The Research Agenda

The most important and substantial piece of academic research to date has been the ESRC's Virtual Society Programme (ESRC, 2000). The Programme which involved 22 inter-related projects in the UK investigated the impact new electronic information and communication technologies. The overarching question which the programme asked was *"Are fundamental shifts taking place in how people behave, organise themselves and interact as a result of electronic technologies?"* The Programme which finished earlier this year identified some key issues which appeared to be counter intuitive to the dominant view being promoted by Internet service providers and the large corporations behind the Internet.

Another piece of interesting research has recently been commissioned by the Town and Country Planning Association. This project is probably the first piece of research which will investigate the relationship between E-commerce and the physical environment. The title of the research project is *"From Bricks to Clicks: planning for the digital economy"*.

3.1 The Virtual Society? Research Programme

The Virtual Society? (the question mark was deliberate) programme was a key element of ESRC's response to the UK Foresight programme. The Virtual Society programme addressed issues identified by many Foresight sector panels. Investigating the future development of new technologies and social activities was recognised as crucially important to wealth creation and the quality of life. The Programme had an initial budget of £3 million and ran from 1997-2000. It comprised a portfolio of 22 projects, involving researchers at 25 universities throughout the UK, and a series of related events and activities. While claims about the radical nature and likely effects of new electronic technologies are widespread, the Programme believed that it was important to distinguish hype from reality. The advantage of this Programme was that it

benefited from research which retained some analytic scepticism about the claims made for the new technologies.

The Virtual Society Programme investigated many social processes in relation to new technology. The Programme addressed the following main themes:

Skills and Performance: the impact of new electronic and communications technologies on human and organisational potential, performance and learning. How have electronic technologies developed as they have and what is the impact on human and organisational performance and skills?

Social Cohesion: the role of new electronic techniques in relations between people and in modifying processes and degrees of social inclusion and exclusion. This theme examines the ties which link people together and mechanisms of governance, social control, inclusion and exclusion.

Social Contexts of New Electronic Technologies: the changing social contexts and factors influencing the transformation and adoption of electronic technologies. Social contexts present difficult-to-analyse sources of risk for investors, managers, organisations and communities. Research is directed to the manner in which technologies are rejected, adopted or adapted and deployed in specific settings.

One of the unique aspect of the programme compared with other academic research was its focus of engaging end-users. The Programme was of relevance to several overlapping constituencies, mainly:

Voluntary and public sector, social services: the potential of electronic technologies for disadvantaging or for alleviating disadvantage, social inclusion and exclusion.

Organisations: the effects of electronic technologies on organisational issues, group dynamics, social interaction and human behaviour.

Commerce and industry: the implications for wealth creation, for service industries and for skills and organisational requirements.

Government and politics: the nature of electronic government and its impact on economy and society; the effects of using technology to deliver public services; changes to democratic structure and process; globalisation versus localisation; resurgence of the regions, and the flight to the cities.

Education: the impact of new technologies from primary to tertiary level; potential effects on distance and lifelong learning.

Technology: the social contexts of development and implementation of new technology; social scientific contributions to technical design.

Academia: social scientists and other disciplines - computer science, information technology, electrical engineering, arts and creative design - researching in and on electronic technologies.

This was such a vast programme of research that it is impossible in such a short report to cover every aspect of this three year programme. The comprehensive Web site is worth a visit at http://virtualsociety.sbs.ox.ac.uk/ and this contains links to relevant conferences, seminars and on-line publications.

3.1.1 The Main Findings

One of the endearing features of this research programme was the adoption of positive scepticism throughout all the projects while at the same time facing continued and widespread hyperbole (or cyberbole as it became to be known within the programme) from Government, industry and the media. As was stated earlier this was a large programme of research with each individual project producing its own conclusions and recommendations. It has been possible to synthesise the results into five broad areas which are discussed below.

1. **The current rate of straightforward rapid expansion may not continue:** many policies, both government and commercial, are predicted on the assumption that the dramatic growth rates of recent years will continue. The research suggests this may not be the case. It is clear, for example, that

overall growth patterns of Internet usage conceal significant changes in usage by different socio-economic groups, including some evidence of drop off by particular groups such as teenagers. Many figures published about levels of Internet access tend to be over-estimated. Most surveys ask if they have ever used the Internet and this includes people who may have tried it once but have never used it again.

2. **New technologies tend to supplement rather than substitute for existing practices and forms of organisation:** although we are sometimes led to believe that new technologies offer an alternative set of practices which displace old ones, it frequently turns out that the new practices take place alongside the old ones. For example, research on cybercafes and telecottages suggests that many of those who use these new access points also have computer access elsewhere, such as at home or work and are therefore not enticing new users. Therefore the concept that providing public access points will increase access for those who maybe excluded is not the case.

3. **The more virtual the more real:** there is evidence that some technologies intended to create new virtual systems of social organisation actually reinforce non-virtual practices. Evidence has suggested that the sending of e-mails between people often leads to more face to face meetings than took place before the use of e-mail. There is also evidence that people browse for consumer goods on-line but actually purchase there goods in the traditional manner by visiting shops. Evidence from the Virtual Consumer project suggested that consumers actually missed the fun of shopping for real and believed that most on-line purchases could be made locally anyway.

4. **The fears and risks associated with new technologies are unevenly socially distributed :** neither hyped optimism nor predictions of the harmful consequences of technology should be taken at face value. On the one hand, contrary to much public discussion, research finds little evidence of

employees regarding technological surveillance systems as a threat to privacy. On the other hand, in contexts of uncertain social relations, electronic surveillance can become a major concern. Surveillance in this context is not necessarily in the traditional sense. An individuals on-line activity can be very closely monitored to build-up specific individual profiles of Internet activity.

5. **The impact of new technologies depends crucially on their local social context:** characteristics such as the economic and educational profile of a given area or social group have a profound influence on both the meaning and utility afforded to technologies. For example, research suggests that on-line self-help may be of most benefit to the middle classes, because it is they who have the cultural capacity to make the best of this innovation.

Source: ESRC Profile 2000: Virtual Society Research Programme.

The Virtual Society research programme has now concluded the vast majority of its research although information about the research is still available on the web site (http://virtualsociety.sbs.ox.ac.uk/). The latest understanding from the ESRC regarding the future funding of research in this area is to set-up a new programme under a different name and consultations are currently underway regarding the scope of the programme. The consultation exercise is being undertaken by William Dutton, Professor of Communication at the Annenberg School for Communication at the University of Southern California. In the meantime the Virtual Society programme continues to publish its findings and influence policy and decision making.

3.2 Digital Futures

The Digital Futures initiative began in February 2000 with the aim of exploring the social and environmental impacts and opportunities of e-commerce. All the main projects, listed below, aimed to assess whether the new digital economy could evolve into a powerful ally of sustainable development. At the time of writing the findings of the initiative had not been

published.   The research will be presented later this year at a Conference (http://www.digitalfutures.org.uk/) in March where the consortium will launch its final report. The line up of speakers will include Patricia Hewitt MP (e-Minister, DTI), Michael Meacher MP (Minister for the Environment) and Jonathon Porritt (Forum for the Future). The conference will cover topics such as social inclusion, community, energy use, business ethics, transport, and planning. The eight main projects were:

- e-Topia? Scenarios for e-commerce and sustainability
- Virtual traffic: e-commerce, transport & distribution
- Surfing alone: e-commerce and social capital
- Dot-com ethics: e-business & social responsibility
- Mind over Matter: Greening the new economy
- Sink or surf? e-commerce and social inclusion
- Bricks vs. clicks: planning for the digital economy
- Sustainable e-regions: mapping the geography of the new economy

Of the eight projects listed above three stand out as being of particular relevance to the Foundations work.

3.3.1 Surfing alone: e-commerce and social capital

This project which appears to be extremely useful to the Foundations work is investigating the concern that the growth in e-commerce will have negative social consequences. One recent US study found that 25% of regular Internet users feel that it has reduced the time they spend with friends and family. This particular research project which is being undertaken by Demos has explored the implications of e-commerce on communities, relationships and the social dimensions of shopping, and suggests how it could be used to stimulate new on-line communities and networks.

3.3.2 Sink or surf? e-commerce and social inclusion

This project undertaken by the New Economics Foundation has assessed whether the Government's target of universal Internet access by 2005 can

realistically be achieved. According to the project outline it will *"look beyond the immediate hurdle of access to explore the longer-term relationship between e-commerce, local economies and social inclusion".* By further developing the idea of Guaranteed Electronic Markets, it will outline alternative models of e-commerce which strengthen local money flows and give a competitive advantage to small enterprise.

### 3.2.3 Bricks vs. clicks: planning for the digital economy

The Town and Country Planning Association funded project *From Bricks to Clicks - planning for the digital economy* is still in its early stages and very little is known about the details of the project at this time. What is known is that the role of the project is to explore ways in which E-commerce will affect the physical environment. The project appears to be taking a two pronged approach from the view of the pessimist and the optimist. The pessimists argue that if people do their shopping, banking and so forth from home, either through their PCs or, increasingly, through interactive digital television, then the demand for the high street provision of those services will decline, and high street shops will close.

The more optimistic observers see things rather differently. They say, grocery shopping over the Internet will probably increase, but this will oblige high street retailers to think more creatively about the services they provide and how they provide them, rather than forcing them to shut down. Some have argued that Internet shopping might save neighbourhood shops, which could function as local collecting points for goods ordered over the Internet.

4 Who Has Access?

Over the first three months of this year an average of 6.5 million households in the UK could access the Internet from a home computer, according to figures collected by National Statistics in July 2000. That amounts to 25 per cent of all households and is double the number from the first three months of 1999. The figures do not include new forms of access, such as digital television.

Figure 1: Levels of Access
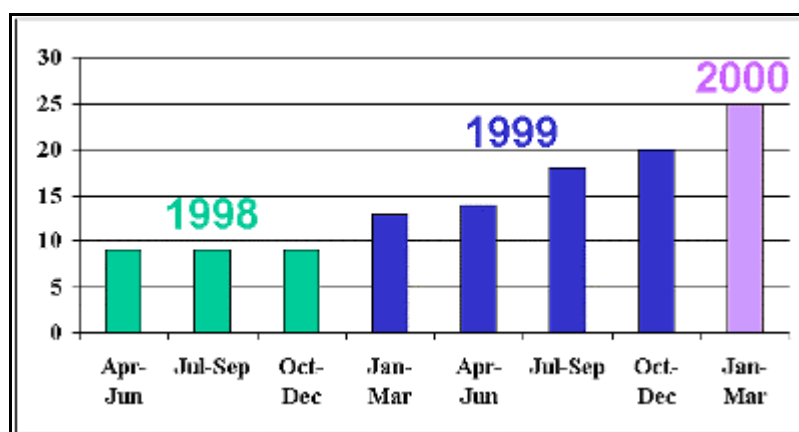
Source: ONS: Internet access 1st Quarter 2000.

Recent figures released from National Statistics found that 20.4 million adults in Britain have accessed the Internet at some time. The figures from July 2000 come from the National Statistics Omnibus Survey (ONS, July 2000) which is carried out eight times a year and each month the survey runs a random sample of approximately 1,800 adults aged 16 and over living in private households.

Further information on access figures are available from the Governments official statistics web site at http://www.statistics.gov.uk/.

5 Consumer Protection

As stated earlier there is little evidence of the necessary safeguards which need to be put in place to ensure consumers are given the type of protection which will encourage mass on-line shopping. The Government have a belief that

> *"electronic commerce offers considerable benefits for consumers - the convenience of home shopping, a wider range of goods and services and lower prices, as well as improved access for disabled people, the elderly and those living in remote areas."*

<div align="right">(DTI, 1998)</div>

However, consumers will not take advantage of these if they are not assured a proper level of protection. They must be confident that the on-line world is a safe place to shop. According to DTI guidelines electronic commerce transactions are subject to the same framework of domestic and international rules as traditional means of shopping including, for example, existing rules on "distance selling" (such as mail order), advertising and consumer credit. Consumers need protection against fraudulent, misleading and unfair behaviour, and, when things go wrong, to be able to gain redress.

It will be necessary to keep the regulatory framework under review so that consumers have effective protection when engaging in electronic commerce. Self regulation may have an important role to play. As cross-border shopping increases there will be a growing need for international co-operation on questions of enforcement, dispute resolution and redress. Businesses, consumer organisations, governments and other bodies have significant parts to play in informing and educating consumers about how they are protected in the new marketplace.

The DTI information from a consumer point of view is merely a means of linking together the relevant Web sites and initiatives in this area. While this is a good resource for anyone already on-line the extent to which consumers would be aware of this information from outside the realms of using the

Internet is not clear. One of the most important issues not tackled by Government is how to enable people without a credit card to shop on-line.

5.1 The Consumers Association

The Consumers Associations (CA) main focus on on-line shopping has been to overcome issues relating to consumers fears of trust and security. Research by the CA shows that there is a definite need to boost consumer confidence in on-line shopping. Figures show that even when people have access to the Internet they are still reluctant to shop on-line:

- 51% of Internet users have not bought anything on-line, 62% of these people were women;
- only 23% of Internet users think that it is safe to shop on-line; and
- nearly 87% of Internet users want independent certification saying that a site is safe.

Source: Consumers Association

The CA believe that on-line shopping can be both convenient and safe but realise that consumer confidence is the key to successful Internet trading. In an attempt to overcome some of the perceived fears which consumers have in relation to Internet trading they have developed the Which? Web Trader Scheme (Which?, 2000). The scheme is designed to make sure consumers get a fair deal and to provide them with protection if things go wrong. A code of practice has been developed which companies must sign on to and agree to if they are to be part of the scheme. The scheme provides the same level of protection as other forms of shopping. Therefore, an on-line company displaying the Web Trader logo are covered by the same consumer laws. If a web trader breeches the code at any time they can be removed from the scheme.

The CA held a one day 'open-shop' last year at Easy.com (part of the EasyJet company) in London to encourage people to try out on-line shopping and assure them that it was safe and posed no security risks to their credit card details. After talking with the CA it appears that their focus is upon promoting on-line shopping for all people through encouragement and increasing

consumer confidence. They have no specific campaigns which are targeted at tackling social exclusion issues. Since the CA conference held in London in June last year where they also focused on increasing consumer confidence they have not developed any further consumer issues is relation to e-commerce and on-line shopping. Their main efforts appear to be focused on the development and roll out of the Web Trader Scheme. In a similar way that Government policy does not tackle the issue of the lack of a credit card the CA have raised no issues in relation to this and the wider social exclusion issues.

5.2 The National Consumer Council

The NCCs main effort in addressing E-commerce issues is its recent report *E-commerce and Consumer Protection* (NCC, 2000). The report focuses on the lack of consumer confidence in E-commerce, and the cautious on-line consumer behaviour that has resulted. Unless problems with credit card security are addressed, consumers' fear of fraud will continue to be a deterrent to on-line shopping. Implementing the Distance Selling Directive may help by providing on-line shoppers with more rights. The NCC believe the Government needs to lead an awareness-raising campaign to combat consumers' poor understanding of their rights on-line and to ensure that adequate measures for consumer protection and redress are put in place, in the UK, the EU and globally.

The report covers four areas of security, opportunity to inspect goods, fostering trust on-line and clear redress mechanisms. It is evident from conversations with the NCC that security and trust are the most important aspects of their thinking and research. Their report identifies that consumer fear of fraud is much greater than the actual levels of fraud which take place on-line. Most consumer concerns relate to the disclosure of credit card details and the fear that 'hackers' will gain access to these details. This is something which the Foundation should take note of as the ability to purchase goods on-line requires a credit/debit card and this obviously has particular consequences for those sectors of society with whom the Foundation are most concerned.

Their concerns over consumer protection appear to be covered to some degree in the Governments thinking but further investigations are needed as to how Government policy may be changed into legislation which is effective. While they have no current plans to publish any further research they are continually involved in working with Government and various working groups in an attempt to overcome some of the security and trust issues. They are working alongside some of the Internet security companies to investigate the technical issues surrounding security and also with TrustUK, a Government and CA supported organisation allowing consumers to buy on-line with confidence (http://www.trustuk.org.uk/). The NCC expressed concern over the lack of Government activity in creating a secure environment for consumers on-line. The assumption on the part of Government that placing trademarks and assurances on web sites, for example the ABTA logo on travel sites, would overcome the problems consumers perceive. The NCC view this policy as merely rubber stamping and believe that the Government should be doing much more to promote trust and confidence. The Council also believes that the media have an important part to play in the issue of trust. The many negative attitudes taken by some sectors of the media increase fear for the consumer when in reality on-line consumer activity is safe in their view.

While the NCC's report does not investigate issues relating to exclusion they express some doubts over Government attempts to provide public access points for e-mail and web access. They believe it is unlikely that people will visit public access points to make purchases on-line in public libraries or social security offices. While they have no direct evidence that this is the case they intend to carry out work later this year into the relationship between consumers and access to Government services.

5.3 The National Association of Citizens Advice Bureaux

While the NACAB have not produced any reports or policy documents directly addressing issues of e-commerce or on-line shopping they do deal with issues relating to Internet access in their response to the Social Exclusion

Units National Strategy for Neighbourhood Renewal (SEU, 1998). In relation to improving access to information technology in deprived neighbourhoods the CAB Service endorses the proposal that there should be at least one publicly accessible community based facility in each deprived neighbourhood. NACAB has produced an information and advice website on the Internet (http://www.adviceguide.org.uk/). This is being used in Bureaux' reception areas and waiting rooms and many Bureaux are also producing their own web pages. NACAB take the view that the opportunities provided through interactive technology make the information they provide even more accessible, and with the anticipated growth of digital television this could be available to almost everyone through their television sets. They also believe that local CABx offices may well be appropriate locations for the publicly accessible community based facility described in the SEU Strategy.

5.4 Digital Television and the Consumer

One of the major problems associated with current access to the Internet among certain social groups is the cost of paying for on-line access through a telephone line. Potentially this could become less of an issue once Oftel makes the necessary changes to regulations to allow competition on the local network. This would allow other telecommunications companies to provide local services (Oftel, October 2000) which would drive down costs. The cost of buying a digital television or a PC is also another limiting factor especially for the sectors of society the Foundation are interested in. The Government announced recently that analogue TV will be switched off sometime between 2006-2010.

Government has announced that the present analogue television services which viewers access through their aerial will be fully switched to digital when virtually all viewers can receive these services and that the cost of switching to digital services is within the reach of all consumers. This will depend on two key tests being met: availability of digital services and affordability of equipment. The Government appear to be very keen to progress quickly with

this policy but some worrying issues are likely to arise particularly in relation to the Foundations priorities.

> *"The Government has ensured that viewers will still be able to get the existing five free-to-air channels digitally and we hope that when the analogue transmissions are switched off, everyone who has a telephone and a television set will have access to the Internet."*

<div align="right">Source: Department of Culture Media and Sport</div>

This relies on people being able to afford a new digital television. While on the surface this may be seen as the answer to problems associated with access to the Internet careful steps will need to be taken to ensure that the costs of buying the necessary equipment do not exclude large numbers of society. In a similar way to current exclusions, the high infrastructure and hardware cost could potentially create a division among those who can afford the technology and those who cannot. A joint consultation document by the Independent Television Commission, OFTEL and the Office of Fair Trading provided advice to Government on digital television (May 2000). The Government has stated that 95 per cent of consumers must have a digital receiver in the home; and under the affordability test the switch to digital must be within reach of people on low or fixed incomes before a switch over is made. At the moment there is no evidence to indicate to what extent consumers will meet the Governments targets in the current timescale of 2006 - 2010.

The Government, through the Department of Media, Culture and Sport and Oftel are consulting in this area but no definitive consumer safeguards have been put in place or identified at the moment. Potentially digital television could become a more realistic means by which most people access on-line services and the legislation will need to be closely scrutinised to ensure disadvantaged consumers are not discriminated against. The National Consumer Council's 1998 report "TVs Last Wave" warned against the problems that *"many may be unable to afford the new technology and equipment"*. No doubt further consultations will take place between the relevant authorities, consumer organisations and the broadcasters. The most important factor which

the Foundation should maybe monitor is the extent to which safeguards are put in place to ensure that those sectors of society who may struggle to purchase the correct equipment are not discriminated against as a result of not being able to afford the technology.

It appears that there has been no research as yet into the possible social and economic consequences of the advent of digital television and this is an area which the Foundation may wish to investigate.

6 The Implications for JRF Research Priorities

This section of the report attempts to make links between the findings of the research and the four research priority areas of the Foundation. Certain areas of the Foundations work are more closely linked to issues pertinent to e-commerce and the wider social and economic consequences of the Internet and digital television.

6.1 Housing and Neighbourhood priorities

This priority area contains the five programmes of Thriving Neighbourhoods, Understanding Housing Markets, Spatial and Land Use Planning, Governance and Delivery and Reconciling Environmental and Social Concerns. Some of the issues within the Thriving Neighbourhoods programme are relevant to access to the Internet. Possibly the two most relevant issues in this programme are supporting individuals and life-long learning. The Internet, as research has shown, can encourage increases in direct, face to face interaction among individuals rather than the perception that it increases isolation. The potential of the Internet for education at all academic and vocational levels is only just beginning to be realised. Many educational institutions offer on-line courses at varying levels but other less traditional organisations can make use of the technology to provide access to training in new ways.

Within the Understanding Housing Markets programme there may be issues relating to infrastructure provision. In areas with housing decay and poor conditions telecom companies may not provide the necessary infrastructure, such as adequate communications lines to allow speedy access to the Internet. The cost of being on-line is directly linked to the speed of the connection to the Internet and if high quality connections are not provided in these housing areas consumers are penalised. A slower connection line means that consumers are on-line longer which increases the cost of the telephone call.

Depending upon how the Spatial and Land Use Planning programme develops will have an impact on its relevance to the Internet and on-line services. If the optimists are to be believed we will all be doing the majority of our shopping on-line in the future. If this were to become the case there would be important impacts upon the planning system. Town centres could demise as people stopped shopping. To cope with an increase in on-line demand large out of town warehouses and distribution centres would be required to sort and deliver goods purchased. This would also lead to impacts on the transport system as goods would need to be delivered directly to the home. From the Foundations point of view some of the most important aspects of this will be to ensure that shops and services do not disappear from the High Street. People who are socially excluded from the Internet will require traditional access to shopping and services. The research from the "Bricks to Clicks" project to be published in March will hopefully provide some important evidence in this area.

The Governance and Delivery and the Reconciling Environmental and Social Concerns programmes have close links to the issues of Internet access and on-line shopping and access to services. The Governments commitment to putting all services on-line by 2005 will mean that the Internet will play an important role in accessing information. The Foundation may wish to investigate ways in which service provision in the traditional sense is protected and to ensure that the Internet is just one method by which services are provided and not the only one. Findings from the Virtual Society programme emphasises that the Internet should supplement but definitely not replace existing practices and forms of organisation. It could be argued that the Internet has many environmental benefits in relation to on-line shopping and access to services. It has the potential to reduce physical transport for shopping and to and from the work place. Once again the outputs from the Digital Futures project may shed new light on this. The Internet also has the potential to be used as a tool for democracy, assuming access issues are overcome. It can

be used as a tool for public participation and on-line voting particularly for local democracy and participation.

6.2 Social Care and Disability priorities

This priority area contains the five programmes of Disabled Children and Young People, Race Equality, Independent Living, Older People and the Future of Rights and Welfare. As part of this priority area the research on Supporting Disabled Children and their Families suggests that:

> *"Parents often find that the most helpful sources of information and advice come from others with similar experiences"*

<div align="right">(JRF, November 1999)</div>

The Internet can provide opportunities for parents to access information and gather experiences from others in ways which have been difficult in the past. Many self-help groups have web sites and on-line resources. The Virtual Community Care project (Burrows et.al. 2000) which was part of the ESRC Virtual Society project studied the functioning of virtual communities which were organised with the express intention of providing some form of social support to its members. This project may offer useful insights into the way the Internet could be used to meet the needs of this priority area. In terms of the other programmes in this priority area the Internet could be used in all kinds of ways to support the way people live their lives. The Foundation may wish to investigate these issues particularly for people who are housebound. The Internet can provide independence through its ability to give people choices which they can make from within their own home. Depending upon the type of disability a person faces the Internet can offer independence and opportunities. The Internet can provide visual as well as audio facilities which will provide independence and choice to disabled people. It can allow them to communicate with other people with whom they had previously not been able to.

6.3 Work, Income and Social Policy priorities

This priority area contains the three programmes of Work and Opportunity, Work and Family Life and Transitions After 50. The most obvious link in this priority area between the three programmes and the Internet relates to the possibility the Internet provides in terms of home working. The Internet is being promoted as a tool which can allow people to work from home. This is extremely useful particularly if you are a young family and wish to combine a working life with commitments to young children. Unfortunately home working, particularly through the Internet is restricted to particular jobs and career paths. The Foundation may wish to investigate the relationships between home working, the Internet and the types of jobs which allow such practice in relation to their three programmes of work. The work by Dwelly (2000) begins to address these issues in relation to home working and digital inclusion and also addresses some of the planning implications. The Transitions After 50 programme may wish to draw upon research from the United States where one of the biggest growth rates in Internet usage is from the over 55 age group. There is a lack of research and evidence about this age groups use of the Internet in the UK but there is growing evidence and an abundance of web sites dedicated to older peoples use of the Internet. See for example http://www.technomum.co.uk/, a web site outlining why the Internet is not just for young people.

6.4 Children, Young People and Families priorities

There are two main programmes of work in this priority area. They are the Children and Families Programme; and the Young People Programme. Early evidence regarding Internet usage suggested that children and young people would be the most important users of the Internet. Teaching children IT skills at school is seen as one of the vital requirements to giving them the best opportunity for a good career. Evidence from the Virtual Society programme suggest that children have become bored with the Internet after an initial 18 month period of interest (Wyatt, 1999). As with the Foundations other priority

areas the Children and Families Programme may have a relevant role to play in the way the Internet can be part of the Children's Perspectives and Participation initiative. There is anecdotal evidence of school teachers suggesting to their pupils that they research answers to their school projects by using the Web when they are at home. This is very well for those who have access. The relationship between education, social class and the Internet maybe something the Foundation would wish to investigate.

6.5 Overall Implications for JRF Research Priorities

In terms of the Foundations interests across all of its current priority funding areas it will be important to ensure that all those who wish to make use of the Internet do so and not just those who can afford access. New research is required to investigate methods of providing access to the types of people the Foundation are interested in. Current policy initiatives are encouraging public access points in libraries and community centres while a lot of the evidence is suggesting that those people who use these forms of access to the Internet already have access at home or in the work place (Liff et.al, 2000). This policy initiative is therefore not working in the way it was envisaged.

It maybe that there is too much emphasis being placed on the need to have access and a presumption that this is what people want. The drive to put goods and services on-line is being driven by large corporations and Government and as a consequence forces people into believing that they need the technology. At a more generic level the Foundation may wish to investigate peoples' attitudes to what the Internet is and how they perceive it as being of some use to them. The Foundation may also wish to investigate ways in which the Internet can become more accessible to those sectors of society which are excluded from many services and facilities.

7 Conclusions

This short report has taken a quick view of current Government and consumer organisation policy and academic research focusing on the implications of *E-commerce* for the consumer. The remainder of the report will now highlight what appears to be the current gaps in knowledge and the direction future research needs to take in relation to the consumer and the social implications of the development of E-commerce.

Recently a new research programme called PACCIT - People At the Centre of Communication and Information Technology was commissioned jointly by ESRC and EPSRC. At the time of writing no information was available about specific projects within the Programme but the overall aim of PACCIT is to develop a greater understanding of the psychological, social and organisational characteristics of individuals and groups in relation to, and interaction with, information technologies. The knowledge gained through this understanding will then be used to feedback to the evaluation and design of more effective IT systems and products. Further details are available at http://www.cogeng.gla.ac.uk/paccit.htm

Further research is required to investigate the social implications and consequences of new and emerging technologies in relation to how they may effect peoples lives. As we move further down the digital road further issues will begin to arise which will have widespread implications for society. Issues which need to be addressed are:

- Why are consumers cautious and unsure of on-line shopping?
- What issues relating to on-line shopping are consumers concerned about?
- What are the barriers to shopping on-line?
- How might on-line activity, whether for commercial, social or public (in the government sense) effect peoples behaviour?
- Will there be implications for the built environment?
- Will work patterns change as a result of increasing activity on-line?

- Will the new information society be as divided as 'normal' society?
- What are the consequences of the complete implementation of digital television within the next 5 to 10 year?

One of the most important issues which needs to be made clear to policy and decision makers is that the Internet and digital television is really no different to any other tool, service or facility available to the public. The same problems of uneven access dependent on social status and conditions will play just the same part in the use of and access to the Internet as all other services and facilities in society.

As a final word, it maybe worth remembering that while this *new* technology is having profound effects on the way many people live their lives it is not as if we have not coped with technological revolution before. As Standege illustrates:

> *"Over the course of a few years a new communications technology annihilated distance and shrank the world faster and further than ever before. a world wide communications network whose cables spanned continents and oceans, it revolutionised business practice and gave rise to new forms of crime. Romances blossomed. Secret codes were devised by some and cracked by others. The benefits of the network were relentlessly hyped by its advocated and dismissed by the sceptics. Governments and regulators tried and failed to control the new medium and attitudes to everything from news gathering to diplomacy had to be completely rethought"*

(Standege, 1998)

The commentator was talking about the advent of the telegraph in the mid 1840s, a technology which later developed into the telephone and from which came the ability to connect to the Internet for an increasing number of us nearly 150 years later.

The premise that the Internet will break-down barriers and create more even access appears not to be the case. Indeed evidence suggests that the Internet just strengthens the current imbalances in society. At the moment if you do not have a credit card you will struggle to make any on-line purchases.

This is one of the biggest barriers faced by those people in society with whom the Foundation are most concerned with.

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