

Tackling the Digital Divide: The Shift from Access to Capacity

ABSTRACT: A focus of daily life in the UK now revolves around the adoption of technology and the impact of Internet based technology raises issues of the digital divide, knowledge divide, social empowerment and socio economic effects. This paper focuses on the impact of the UK government's policy, 'digital by default', on individuals with limited IT skills living in an area of deprivation.

Following a review of prior research, the paper analyses data from semi structured interviews with progression support workers in their roles supporting individuals in their use of computers to find employment. Research results identify barriers inhibiting individuals from using IT and the discussion reflects whether the inclusion of concepts of Rogers' Diffusion of Innovations theory into the design of the 'digital by default' policy has the potential to address the digital divide. The Conclusion draws on the research results to recommend a revised policy strategy.

Keywords: digital divide, policy, strategic computer use, digital capacity, social exclusion

INTRODUCTION

This paper discusses the aspect of UK policy, 'digital by default', which requires individuals who need access to services to interact with computers to achieve a goal, in this case employment. The focus of this paper is to identify barriers to the strategic use of computers to enhance life chances through employment. It supports the notion that digital exclusion impacts on socio-economic equality and recommends strategies based on Rogers' Diffusion Of Innovations theory (2003) to address those barriers. The paper posits that the inclusion of concepts from Rogers' Diffusion of Innovations theory (2003) into the design of the policy would address issues impacting on individuals' skills/motivation to use computers. The assumption within Rogers' (2003) theory holds that it is possible to alter voluntary innovation adoption behaviour to enhance diffusion of an innovation.

In 2012 the UK Coalition government introduced the policy 'digital by default', a strategy designed to provide transactional digital services that are clear and convenient through one government portal. This 'digital by default' programme is supplemented by 'digital assistance' a more conventional means of communication for those unable/unwilling to use digital methods (Government Digital Strategy, 2012). A major part of this strategy is Universal Jobmatch where clients are required to search for employment and track their job seeking activities on-line in order to qualify for benefit payments. There is also the move to a new benefits system, Universal Credit, a reform of the welfare payments system designed to simplify the system for people in and out of work (Shelter 2012). New claimants will be expected to claim and manage their accounts online. It is planned that new claimants will begin to claim from October 2013 and existing claimants will be phased onto the new system by 2017 (DWP, 2012). The expansion of the full Universal Credit to the north west of England will begin in June 2014 and in the area of the research, on September 15th, 2014. It will gradually involve all the job centres before being rolled out to 1 in 8 job centre across the country (DWP, 2014).

A primary concern as this radical policy is implemented centres on the claimants' capacity to use technology, as the use of alternative services to help those unable to access online services will be kept to a minimum (Rotik & Perry, 2012; Welfare Reform Bill Universal Credit Equality

Impact Assessment, 2011). The social impact of the new policy has the potential to exacerbate the social exclusion aspect of the digital divide due to the difference in individuals' IT skills levels.

This research was underpinned by a review of prior research to identify issues inhibiting the use of computers. The empirical phase analysed issues from the perspective of progression support workers tackling deprivation by offering advice/guidance helping individuals to find employment through the use of IT. These respondents are based in Skelmersdale, Lancashire. It was a small mining town until the establishment of the New Town in 1961 designed to accommodate population overspill from Liverpool and Merseyside. It is now the largest and most densely populated settlement in the borough of West Lancashire, with a population of almost 41,000 in 2011. However, the town has not reached its originally planned size of 80,000 (West Lancashire Highways Master Plan, 2014). It is a significant 'hot spot' of deprivation, being the most deprived area in the borough of West Lancashire with 14 of its 23 Lower Super Output Areas (LSOAs) featuring in the top 20% most deprived areas of the country (CLG, 2010). There is a link between digital engagement and material deprivation with distinct regional variations which have implications for digital policy implementation. While deprivation is not a static state, digital exclusion impacts on access to services (Longley & Singleton, 2009). The respondents deal daily with difficulties faced by claimants in using computers to search for employment. This paper suggests that concepts from Rogers' theory (2003) once reflected in a revised policy design may offer a solution to barriers impacting on the acquisition of basic IT skills.

The structure is as follows, the next section analyses the UK government policy shift to digital communication discussing societal differences in capacity to use IT. The third section analyses prior research to identify issues impacting on the acceptance of digital technology to search for employment/access benefits. The fourth section discusses Rogers' theoretical concepts that influence individual adoption of new practices. The following section discusses the methodological approach to this research and the sixth section discusses the research results. The results identify main barriers impacting on individuals as they are faced with the requirement to learn basic IT. Section seven analyses how Rogers' constructs are reflected in the implementation of 'digital by default'. The penultimate section, discusses issues arising from the results emphasising the need for support in this area to enable strategic computer use. It suggests ways in which Rogers' concepts are reflected in the requirement to digitally search for employment. The Conclusion identifies an unintentional consequence of the digital policy and drawing on Rogers' (2003) concepts suggests a way in which its delivery could be streamlined.

THE DIGITAL LANDSCAPE

A fundamental part of the 'digital by default' approach is to design services that are modern and easily accessible (Cabinet Office, 2012b). Nevertheless, many individuals do not believe that they have suffered by not accessing the Internet therefore the assumption is that their non-use is a choice (Dutton, Helsper & Gerber, 2009). O'Callaghan (1998) holds that acceptance of new technology is generational. Young people, aged 18-24, use more informal ways of participating through new technology particularly through social network sites (Benton et al, 2008).

Research has shown that over 50% of individuals in socio groups C2, D, & E which include low paid, unskilled and the unemployed own a computer and 65% of them purchase goods/service/tickets on line. However, only 25% look up information/services on government or local council web sites (Ipsos, 2012). Table 1, below, shows the percentage of UK adults and the pattern of digital transactions.

Table1 Percentage of population using digital channels

Type of Digital Transaction	Percentage of UK adult population
Used Government transaction online	46
Accessed Government transaction online	8
On line use-no Government information/transaction	28
Offline, willing to go online	6
Offline, not willing to go online	12

(Cabinet Office, 2012a)

The British government has committed to promote e-services (Fairweather & Rogerson, 2002). The former government took steps to address the issue of access to the new technology, introducing into public libraries in 2001, a scheme called the People's Network affording free Internet access to all citizens. Recently, the Coalition government looked for new ways of engaging with the public through the use of digital channels (Hill & Noti, 2009). However, the Coalition appears to be concentrating on delivering high speed broadband with the aim of ensuring 90% of homes have access to high speed broadband by 2015. Therefore the issue of digital inclusion appears to focus on access rather than issues of capacity to use the Internet (Mason, Sinclair & Berry, 2012). The focus is now on transactional services such as applications, tax and licensing (Cabinet Office, 2012b).

To facilitate the 'digital by default' policy all public bodies will have to work in conjunction to provide a range of services to be accessed through the GOV.UK portal. Presently of the 650 transactional services offered by the government half do not offer a digital option and those with a digital option are not well used. The new service provision is expected to save people, business and the government money by making transactions faster and reducing failed transactions. It is estimated that a saving of between £1.7 to £1.8 billion is possible by moving offline services to digital channels (Cabinet Office, 2012b). The introduction of Universal Jobmatch and Universal Credit, as discussed above, are integral to this digital strategy.

Benefits brought by the Internet are not evenly distributed (Jaeger & Bertot, 2010). One in 5 UK citizens, 11 million adults do not have basic IT skills. They cannot send or receive e-mails, search online or complete on-line forms. They also cannot use the Internet safely or securely. The UK's digital economy accounts for over 8% of GDP, more than any other G20 country. As benefits accrue for those who are online, people without basic IT skills will be left further behind (Big Lottery Fund, 2013).

CHALLENGES OF DIGITAL SERVICES

The Internet plays an increasing role in our everyday lives (Litt, 2013). The digital divide is no longer between those who have access to digital communication and those who do not, rather it is individuals who cannot use digital media who constitute a new digital underclass as they have a lower level of life choices (Eynon & Helsper, 2011). Access and ownership of a computer does not equate to the ability to use on-line services, as the ability to mine the Internet does not mean individuals are capable of strategic computer use to attain a goal. This lack of skills becomes critical when government expects individuals to access services on-line (Van Deursen & Van Dijk, 2009). Litt (2013) claims that Internet skills are vital for social inclusion; however, there is recognition that factors within society limit opportunities for digital media access (Sourbati, 2012).

The revised approach to digital participation requires changes to user behaviour to understand the new practices. There is a natural aversion to change which causes stress and uncertainty, a situation underpinning Festinger's theory (1957) of cognitive dissonance (Sedley and Muller, 2013). Prior research recognises that the strategy 'digital by default' will result in problems for individuals accessing information including searching for employment thereby accessing the benefit system (Rotik & Perry, 2012)

Hilbert (2010) argues that income levels and educational attainment provide the most powerful explanatory variables for IT access and usage. He holds that digital usage may depend on the perceptions of potential users including their skills and motivation. Individuals with a high level of strategic computer skills are able to use the diversity of the Internet to pursue their goals. Individuals with lower level of strategic skills find it increasingly hard to access on-line information. The cost of broadband can act as a barrier to its adoption coupled with a lack of understanding of the relevance of its benefits and a lack of skills to use it (Analysismason, 2013). Income related demographics are still apparent amongst non-users, 71% are in the C2, D and E income brackets, 50% have no qualifications. One in four are uncomfortable with technology and one in five don't know how to use it (Ipsos, 2012). Lack of skills was identified earlier by Chenn and Farlie (2004) who posit that education does not impact on the use of IT rather it is the availability of technology to enable Internet use. This paper argues that access to computers has largely been overcome as hardware has decreased in price and the availability of computers in centres throughout UK communities is widespread. Nevertheless, the skills gap is growing (Van Dijk, 2011).

Age appears to be a deciding factor in Internet use with 99% of individuals between 16 and 25 having used the Internet and individuals aged over 65 most likely to never have used the Internet. That is 43% of the 7 million non-Internet users (ONS, 2013). However, older computer users and those in the 18-29 age range appear to have nearly the same strategic computer skills to enable them to achieve their goals (Van Deursen and Van Dijk, 2009).

Sourbati (2013) posits that disabled people experience a greater level of inequality as they engage with the Internet in terms of access and capacity. 32% of those who are disabled have never used the Internet which equates to 53% of the 7 million that have never used the Internet (ONS, 2013). The above data demonstrate that individuals probably most in need of government information and services are least likely to be able to access them by digital means.

As pressure increases to deliver services on-line with their inherent cost savings, users of the services must believe they are trustworthy. With increasing pace of technological change the major problem for public service organisations is to keep pace with cyber security (Thornton, 2013). The establishment of trust in a web site is dependent on privacy and confidentiality. On-line behaviour is determined by beliefs about the Internet and these will be modified by previous experiences and peer information (Chaffey & Ellis-Chadwick, 2012). A secure Internet is vital to the success of the digital policy and public trust takes time to build but very little time to destroy (ICAVM, 2002).

As technology develops there is resistance to new practices as even though the technology may become more acceptable and less expensive there may be individuals who simply opt out as the new technology does not benefit them or they simply reject it (Kersting & Baldersheim, 2004). Research has shown that there are various reasons individuals refuse to use the Internet among them are

- Task of learning to use the Internet too great/feelings of inadequacy to use technology.
- Pessimism or pride in their defiance of the Internet.

- Preference for traditional communication and disbelief that digital communication will replace face-to-face contact.
- Belief that there will always be an alternative to digital and will seek this out particularly for government services.

(Cabinet Office, 2012a)

ROGERS' THEORETICAL APPROACH

This paper suggests that the incorporation of concepts from Rogers' Diffusion of Innovations theory (2003) into a revised policy design would result in a 'smoother' introduction of digital services. Such a strategy would centre on communication to address uncertainties and would enhance the characteristics of digital channels, to enhance acceptance. Rogers (2003) holds that an innovation can be "an idea, practice or object that is perceived as new by an individual or other unit of adoption" (p12). Use of digital channels to access information about employment/benefits is a new practice. Rogers (2003) believes that new technology has the potential to bridge the digital divide, suggesting that interactive communication technologies may be changing the diffusion process by diminishing the distance between who communicates to whom about a new idea. A similar belief in a key role for new technology appears to underpin the UK government's digital policy.

This research into barriers to IT use identified the impact of constructs within Rogers' innovation decision process for the individual. This is the process through which an individual passes from gaining knowledge to adopt or reject an innovation. The descriptors in Rogers' theory (2003) indicate issues that influence adoption decisions including consideration of the context and attitudes of the potential adopters. It is a staged model, the first stage being 'knowledge'. Potential adopters learn about the innovation and gain some understanding of its functioning. The second stage is 'persuasion'. During this evaluative stage individuals form an attitude towards the innovation based on its perceived attributes. The third stage is the point at which the decision is taken to adopt or reject the innovation/practice based on five attributes of the innovation, listed below,

Relative advantage - *A relative advantage over an existing innovation or status quo.*

Compatibility - *It is compatible with existing values, past experiences and needs of the potential adopter.*

Complexity - *It is not too complex.*

Trialability - *It can be tested for a limited time before adoption.*

Observability - *The innovation must offer observable results.*

(Rogers 2003, pp 226,238,239)

Stages three and four are 'implementation' as the individual uses the innovation, and 'confirmation', a stage of reinforcement.

In the case of 'digital by default' these latter two stages for the individual appear to be optional as 'digital assist' will be available to help those who cannot access the digital channels. However, as discussed above, the use these services to help those unable to access online services will be kept to a minimum (Welfare Reform Bill Universal Credit Equality Impact Assessment, 2011). In reality individuals who need services will need to acquire digital skills. The respondents' organisational role is to provide that support.

RESEARCH METHODOLOGY

This qualitative research is underpinned by the realist paradigm believing, like Miles and Huberman (1994) that qualitative research offers an understanding of “what happened and how and why it happened” (p 232). The research sought reasons that individuals struggled to use computers to mine employment information and to communicate with the UK benefits system. “Realists believe that there is a ‘real’ world ‘out there’ to discover and the contexts of phenomena are very important” (Sobh & Perry, 2006, p 1200).

The area chosen for the research was Skelmersdale which has the greatest number of people in the borough claiming job seekers allowance and claiming benefits. Fifteen percent of people living in Skelmersdale claim benefits which is 58% of the West Lancashire population (WLBC Local plan, 2013). The sampling unit for this research was individuals working within ten organisations, sited under one mile from the town centre. The respondents are progression support workers whose roles are to address deprivation by working with those seeking employment through strategic computer use, thereby accessing the benefits system. They were purposefully chosen to provide insights from their experiences of directly tackling this aspect of the digital divide and they were assured of anonymity, a strategy to encourage frank in-depth responses.

Variables identified from a review of relevant literature and descriptors from Rogers’ theory formed the basis of the semi-structured interview schedule for the empirical phase of the research. “Unstructured interviewing can provide a greater breadth of data than the other types given its qualitative nature” (Fontana & Frey, cited in Denzin & Lincoln, 2000, p 652). Table 2, below, shows the objectives of the structured section of the interview and the focus of the questions. The final section of the interview allowed the scope of data collection to be increased by offering the opportunity for the respondent to speak openly.

Table 2 objectives of the structured section of the interview schedule

Objectives	Focus
To identify respondents experience of ‘digital by default’.	Clients’ problems, resources, impact on respondents.
To establish the type of knowledge/persuasion.	How clients received knowledge/persuasion to use support to acquire IT skills.
To identify the impact of Rogers’ diffusion concepts.	The attributes of ‘digital by default’, relative advantage, compatibility with previous job seeking practices, complexity, trialability, observable traits.

The use of theory in loosely constructing the framework of the interviews was designed to aid data analysis by allowing answers from the respondents to be grouped by topics (Patton, 2002; Kelle, 2004). Following each interview a summary sheet was prepared outlining the logistical details, time and place, and any emerging themes (Dawson, 2002). The answers to the questions linked to variables identified in the literature review also identified additional issues facing the respondents.

The analysis of this research broadly recognised the framework developed by Miles and Huberman (1994) see Table 3, below. Patton (1990) knows “of no better source of ideas for analytical approaches to qualitative data.....” (p 414). The analysis of this research emphasises understanding and explanation as it adheres to Patton’s (1990) notion that the emphasis in data analysis is on illumination, understanding and extrapolation.

Table 3 Research analysis strategies

Miles and Huberman's Strategies	Application
Clustering –grouping people/processes together if they appear to have similar characteristics	All respondents support clients to acquire IT skills to search for employment.
Noting patterns and trends	Identification of variables impacting on the work of the respondents.
Seeing plausibility	Identified the effectiveness of variables and used them as a signpost to identify patterns to be further checked.
Making contrasts and comparisons	Established similarities and differences between variables impacting support for job seeking, contrasting them with variables identified in literature.
Finding intervening variables	Identified the presence and effects of one set of variables on another set of variables and the presence of less obvious influential variables.
Building a logical chain of evidence	Sourced data from several sources to ensure triangulation and maintained an audit trail to understand the patterns and trends of the research.

(Miles & Huberman (1994, pp 245-262)

Computer analysis aided the coding process to find commonalities and differences and to see if they formed “meaningful pictures”. Coding linked the segments of data to create common elements, and as Coffey and Atkinson (1996) say codes are organising principles “tools to think with” and were altered and expanded as the research progressed (p 32). Stake (1994) states, “we come to know what has happened by what others reveal” (p 241).

RESEARCH RESULTS

Each respondent drew on his/her experience to identify variables acting as barriers to his/her clients’ access to digital communications to secure employment. The interviews focused on the problems of the respondents’ clients, the impact of the new digital policy on their clients, and resources available to the respondents/clients, identifying age/education, access/capacity and motivation as significant variables acting as barriers to strategic IT use.

It is recognised that in Skelmersdale many cannot afford to purchase computers or afford subscriptions for broadband. However, there are several points of public access to the hardware with 81 computers or thereabouts, available in centres (not including college based devices) within one mile of the town centre, although not all are available on a drop-in basis. Support in the form of Job Clubs, IT courses, literacy and numeracy courses and benefit advice is available in Community Centres, Community Charities, the College and in libraries where there are basic IT courses. Free wi-fi is available at most sites.

Concern was expressed regarding the capacity of organisations within the town to support employment seekers. There was evidence that some agencies were waiting for up-graded hardware including the Job Centre which expects an additional four Internet active devices in October 2014 to be available on a drop-in basis, and the provision of free wi-fi. At the time of writing there are three bookable devices in the Job Centre that can be used to register for Jobmatch and an assistant is available to help with this process rather than instruct on IT skills. Individuals who require additional training to use computers are signposted to other agencies and anecdotally this has resulted in some clients feeling neglected.

The Job Centre is the focus for those seeking employment/benefits and it is here that they learn of the new digital approach. Following registration there is a formal interview to identify individual requirements and to introduce the digital approach to finding employment including a job seeking strategy. Should a lack of literacy or numeracy skills be identified there is a mandatory requirement to attend appropriate courses.

Age/Education

The respondents recognised that for older individuals (over 40 years old) computer usage appears to be a problem. Individuals in this age group, who have either been in employment and have lost their job or have never worked, did not experience computer education while at school. There is a distinct 'fear factor' with clients anxious that they will be unable to cope with the new technology often believing there is a stigma in acknowledging that they are not computer literate, as a result these clients are hesitant to come to computer access points. Staff address such fears prior to introducing basic IT skills. Younger clients appear to be able to mine the Internet successfully yet have limited skills with Microsoft packages, compiling CV's and attaching them to web sites.

Unlike the age variable, the level of education attainment has a limited effect on the older age group (over 40 years old). While the main issue for older yet better educated clients is their IT skills, younger clients often have difficulty with their literacy and numeracy skills. The respondents reported a significant problem with younger clients in the under thirty age group who lack the ability to read and understand instructions on the screen while low level numeracy skills impact on their clients' ability to manage money in order to budget appropriately. It was envisaged that with the rollout of Universal Credit the practice of paying benefits monthly would cause an increase in problems for individuals used to weekly payments. Of most concern to one respondent was his clients' inability to solve simple mathematical problems when going for interviews for unskilled posts.

The findings show that for many clients the process of registering for Universal Jobmatch appears daunting. In order to access employment opportunities individuals need to establish an e-mail address, set up an individual account to facilitate his/her job hunt, compile a CV and develop the ability to track job seeking attempts. To create the account requires them to register with a password and a twelve digit code. As one respondent commented, "It is a big ask, especially for someone with no knowledge of computers."

Particular concern was expressed for clients with learning difficulties. Common problems of strategic computer use are magnified by their educational difficulties. It has been noted that clients with learning difficulties appear to either be eager to learn and want employment, or are resistant to attempts to help them. The sanction of withdrawing benefits does not appear to influence this latter group who are likely to live at home and be supported by their parents.

Access/Capacity

Opinions differed on the standard of help available for individuals to acquire the capacity to use IT to access employment opportunities. Respondents responsible for access to benefits were confident that individuals could attain sufficient IT skills to enable them to claim benefits. In contrast, respondents providing access to employment opportunities were either confident that individuals could access all the help they required through packaged strategies tailored to their needs, or they believed that help was fragmented. There were examples of organisations providing support for the long term unemployed by enrolling them on programmes to improve literacy and numeracy and address any issues acting as barriers to progression into employment. Such organisations co-operate with employers to source job opportunities working with their

clients as they adjust to the work environment. They continue to support transition from benefits to paid employment to ensure that there is no “cliff face” of a drop in income to discourage employment. This entails securing all the benefits to which working families are entitled.

Respondents commented on the number of different agencies offering similar services and a lack of partnership working. One progression worker recommended earlier signposting to the National Careers Services and the development of a central hub through which individuals could access support to improve skill levels. Detractors from the present system also commented on the use of Government money to contract out courses to help the unemployed. They believed that the courses are expensive, are not of a high quality therefore are not effective in helping individuals find jobs. There was a belief that the most needy did not receive sufficient access to training funds. Further support for the notion that not all courses are beneficial came from a respondent teaching basic IT. It was recognised that some clients had attended formally structured courses at the local college with a large number of attendees and due to the lack of individual attention had fallen behind. These clients presented for less structured modular courses that could be tailored appropriately.

The respondents were concerned that secure long term funding for their respective organisations was uncertain. Since April 2014 Community Centres are no longer funded by the local authority and need to become self-funding. Some plan to charge for previously free IT access. There are examples of centres operating on a voluntary basis as funding streams become exhausted and the bidding process for additional finance evolves. Lancashire County Council through the library service provides what appears to be the most secure funding for basic IT courses. As one respondent remarked “The problems we see on a daily basis will not just go away because the money runs out.”

Motivation

There was a measure of unanimity regarding drivers to access digital communications concluding that the most influential driver was an individual’s motivation. ‘Digital by default’ was regarded as more complex than previous benefit claiming or job seeking practices. Particular attention focused on the system for registering to open individuals’ accounts and the large number of pages for web claim forms both of which were viewed as too complex.

All respondents had experienced a measure of resistance to using IT. Objections varied, there was fear of the unknown when facing the requirement to use IT coupled with apprehension due to inadequate levels of literacy. While there are no formal data relating to the perceived stigma of a lack of IT skills, each respondent commented with similar remarks regarding their clients’ anxiety in using the new digital system. There have been examples of defiance, as clients did not believe that they had any obligation to acquire IT skills. However, the sanction of withdrawal of benefits has an impact on those living independently or those with a family and impels them to begin to learn the necessary IT skills to access employment and benefits. There was a belief that without such sanctions many would not engage with IT. There were reports of clients becoming frustrated with on-line forms and as one respondent explained “they get fed up by the second page and just give up. They just have to come back and start again”.

A particular client concern is that of confidentiality, clients feared that their personal details might be used in a fraudulent manner even though the respondents had not experienced any instances of a breach of Jobmatch security. To combat this fear one support worker recommends that each client opens an e-mail account specifically for Jobmatch.

REFLECTIONS ON ROGERS' CONSTRUCTS

Data shows that Rogers' (2003) diffusion constructs are reflected in the implementation of the digital policy as illustrated in the variable effects Table 4, below.

Table 4 Variable effects table showing the effects of Rogers' concepts on the implementation of 'digital by default' in this research

Rogers' Constructs	Effect
Knowledge	Sufficient knowledge regarding the availability of benefits and places to source job opportunities. Lack of knowledge re improving job opportunities through upskilling. Lack of basic educational attainment.
Persuasion	No peer pressure. Lack of motivation to actively seek work addressed by sanctions for non-compliance with strategies to support finding a job.
Decision Relative advantage	Respondents identified advantages of digital communication despite support problems.
Compatibility	Digital by default was not viewed as compatible with previous practices. Individuals believe they are stigmatised when asking for help with literacy/numeracy problems. Fears for privacy.
Complexity	The new practices viewed as complex.
Trialability	Opportunities exist to use public computers for practice purposes.
Observability	Support exists to help with IT problems. Stigma in admitting lack of IT skills.

Each respondent commented that individuals requiring support were aware of various organisations offering help and advice although there was a lack of knowledge regarding the availability of educational opportunities to improve skills. Respondents commented that there was a belief that putting information on-line for people with few or no basic IT skills was a waste of money when a conventional information campaign involving posters, leaflets or TV advertising may be more effective.

There appeared to be an element of unanimity on the influence of the second construct, 'persuasion'. The respondents' clients were not influenced by their peers to find employment nor to claim benefits. Knowledge of the type and availability of benefits appears widespread and the sanction of withdrawal of benefits for a fixed period for not seeking employment ensured a measure of compliance with job seeking strategies. There was evidence that while individuals were not influenced by their peers to claim welfare support there was evidence that peer contact influenced individuals to attend courses offering basic IT.

The 'decision' stage is realistically a default stage, if individuals do not seek employment using digital channels they will not receive financial support. The respondents realised the relative advantage of using IT to seek employment but questioned whether their older clients would also appreciate it. Younger clients even though some had literacy issues, appeared to readily accept the use if not necessarily the advantage, of new technology, as new job search strategies imposed a measure of discipline on those seeking employment.

Compatibility of 'digital by default' and previous job seeking practices appeared to impact on the work of the respondents. Some clients were reluctant to ask for help with IT, literacy and numeracy problems believing that to admit a lack of knowledge would be a stigma. Numeracy problems were identified as clients transitioned from unemployment to employment. Once in

employment further support was necessary to liaise with the employer, ensure rental payments and receipt of working tax credits. It was envisaged that the introduction of Universal Credit with benefits paid monthly would exacerbate budgeting issues.

'Digital by default' was regarded as more complex than the previous benefit claiming or job seeking practices. Particular attention focused on the large number of pages for web claim forms which were viewed as too complex coupled with the system for registering to open individuals' accounts. However, there appeared to be a realisation that the problem was generational.

The construct of 'trialability' did not appear to exercise a weight of influence with the respondents' clients. The respondents had been trained to help their clients and were confident that they could address any issues arising as a result of their roles. Each respondent was confident that sufficient support existed within the numerous sites to assist in seeking employment. The aspect of the construct 'observability' that appeared to carry most weight was the sanction of a reduction in benefits for not following a strategy to find employment. Many clients knew of instances of the withdrawal of benefits and this acted as a discipline to encourage compliance with the job seeking strategies. A further 'observability' aspect was the anxiety shown by clients as they realised they needed to acquire/use IT skills.

DISCUSSION

The respondents were in no doubt that in Skelmersdale there is a need to support access to use digital communication in a strategic manner. The findings support prior research arguing that the digital divide now comprises digital exclusion, in that the inability to use digital communication impacts on socio-economic equality (Hilbert, 2010). A major barrier to computer use was the anxiety of job seekers who believed there was a stigma in not knowing how to use a computer and this apprehension was the first hurdle that had to be addressed. Funding the provision of this IT support varies across the organizations and appears to be either short term or medium term. In this area of deprivation individuals who are unable to afford a computer and broadband can access several points to gain basic IT skills to access employment opportunities even though estimates of the value of the courses vary depending on who is conducting them.

There was evidence that given targeted support individuals can acquire the necessary IT skills to seek employment. Younger individuals had been taught IT skills in school and older individuals appeared able to acquire the skills without too much difficulty. Individuals with learning difficulties appeared most vulnerable to the 'digital by default' approach. Although they were supported by various agencies to claim benefits or seek employment, many were unable to grasp the simplest IT tasks. This finding supports Sourbati (2013) as this societal factor limits IT access.

This research supports Thornton (2013) who argues that if the public are to trust digital access to public services those services must be trustworthy. There was evidence that some job seekers were concerned that they may be vulnerable to identity theft. However, there was no evidence that this had occurred yet this was another aspect of the 'fear factor' that the respondents were required to address.

An individual's motivation appears to be a powerful driver to develop IT skills, a finding supporting Hilbert (2010). However, the motivation identified in this research is not the willingness of individuals that is the impetus to use IT, rather it is the prospect of losing benefits. The sanction of a cut in the amount of benefits if individuals do not comply with the schedule of

job seeking is the driver to acquire IT skills. Without this sanction a number of job seekers would resist using digital communication demonstrating Festinger's theory (1957) of cognitive dissonance choosing to reject the new practice.

Rogers' (2003) constructs as reflected in this digital policy in Skelmersdale suggest solutions to the issues identified in this research. The provision of knowledge to enable individuals to seek employment appears to be sufficient. However, the 'persuasion' concept of Rogers' theory may influence the take up of educational/IT courses, as there appears less emphasis on publicity informing about courses providing educational and IT skills than on the availability of benefits. Arguably a conventional publicity strategy would inform of those opportunities.

Rogers' constructs of 'compatibility' and 'complexity' appear to impact on how individuals view the digital approach to employment seeking. The use of IT to seek employment requires behaviour change and is not compatible with previous methods of job seeking. It is a more complex process resulting in apprehensive claimants and bringing to the fore issues of literacy and numeracy. Avenues of support exist throughout the town yet are fragmented with offices at various points with evidence of duplication as organisations offer similar support.

Issues reflected in the constructs of 'trialability' and 'observability' do not appear to carry an equal weight of influence. Individuals are able to acquire and practice IT skills at points throughout the town. Similarly individuals can learn IT skills through observation at various points. The construct 'observability' demonstrates digital exclusion in that individuals are forced to address their lack of IT skills often coupled with a lack of literacy/numeracy skills. This concept is also demonstrated in the influence of sanctions for non-compliance with employment seeking strategies.

CONCLUSION

This research took place in an area of deprivation and the findings suggest that there may be modest extrapolation of the conclusions to other such areas. The evidence offers support for Eynon and Helsper's (2011) argument that there is a digital underclass and the 'digital by default' approach could be seen as a type of discipline to address issues of digital exclusion within society. Constructs of Rogers' (2003) theory are reflected in the digital policy and like a converging lens offer a picture supporting suggestions for policy adaptations to increase the rate of transition to digital engagement.

Although this research supports prior research regarding the influence of an individual's age and education on their ability to use IT, the findings show that these variables do not necessarily act as barriers to the use of new technology (Hilbert,2010;Van Deursen & Van Dijk, 2009). Age and education variables appear linked as older individuals with experiences of the workplace/life, but not necessarily well educated, appear to adapt to the requirements of digital communication. It is their perception of computers that colours their attitude to the new employment seeking practices. Younger individuals while not being apprehensive to use computers, appear to lack necessary skills to interact with the administration of Jobmatch.

There appears to have been an unintended consequence of the digital policy. It has highlighted a lack of basic educational attainment to the extent that agencies providing support to job seekers now support courses in literacy and numeracy. In this area there is tentative evidence that the more educated an individual the more motivated they become to achieve life's goals and motivation appears to be the main barrier to IT use. This research suggests that a publicity strategy informing of educational/IT learning opportunities aimed at the general population

within an area of deprivation coupled with an increased availability of courses to address gaps in education, may result in an increase in personal motivation to improve life chances.

Evidence suggests that although there are numerous organisations supporting job seekers, with some duplication, they are fragmented. A structured evaluation strategy based on feedback from progression support workers may identify weaknesses in, and suggest improvements to, the type and provision of support. A more radical approach may deliver a higher quality of support.

A revision of the digital policy drawing on Rogers' (2003) diffusion concepts would address barriers impacting on the acceptability of the new employment seeking practices and aid the work of the respondents. Rogers' (2003) concepts of 'complexity', 'compatibility' and 'observability' influence attitudes to innovation and in the case of job seekers in this area they are reflected in the 'fear factor' observed by respondents. To address those descriptors and in order for those using Jobmatch to appreciate any relative advantage of the new system over the old, the on-line forms could be simplified with fewer pages making them more compatible with previous printed material.

The creation of 'one-stop hubs' would provide focal points where benefit and employment information could be available together with computer access and educational support. At present the longer term unemployed are offered programmes unavailable to individuals as they become unemployed. Such programmes should be available immediately individuals become unemployed with a designated person to enhance IT skills and progression into employment. These recommendations come at a price but their implementation would provide earlier intervention without duplication, rather than waiting until unemployment for some becomes a normal way of life and the cycle of deprivation becomes endemic. Future research into issues impacting on the implementation of Universal Credit would complement this research and may usefully inform policy revisions to enhance the integration of both systems.

REFERENCES

- Analysysmason, (2013) *Bridging the digital divide: Connecting the unconnected* Retrieved November 30, 2013 from <http://www.analysysmason.com/Templates/Pages/KnowledgeCentreArticle1.aspx?id=13414>
- Benton, T., Cleaver, E., Featherstone, G., Kerr, D., Lopes, J. & Whitby, K., (2008) *Citizenship Education Longitudinal Study (CELS): Sixth Annual Report. Young People's Civic Participation In and Beyond School: Attitudes, Intentions and Influences* Retrieved 23 June, 2009 from www.nfer.ac.uk/publications/ceoo5
- Big Lottery Fund (2013) *Investment bridges the digital divide* Retrieved November 7, 2013 from <http://bigblog.org.uk/2013/10/31/investment-bridges-the-digital-divide/>
- Cabinet Office (2012a) *Digital Landscape Research* Retrieved November 24, 2013 from <http://publications.cabinetoffice.gov.uk/digital/research/#internet-use>
- Cabinet Office (2012b) *Government Digital Strategy Policy Paper* Retrieved November 27, 2013 from <https://www.gov.uk/government/publications/government-digital-strategy>
- Chaffey, D. & Ellis-Chadwick, F. (2012) *Digital Marketing: Strategy, Implementation and Practice*. Harlow: Pearson
- Chenn, M. & Fairlie, R. (2004) *The Determinants of the Global Digital Divide: A cross country analysis of Computer and Internet Penetration*. NBER Working Paper No. 10686 JEL No. O30, L96 Retrieved December 5, 2013 from <http://www.nber.org/papers/w10686>
- Coffey, A. & Atkinson, P., (1996) *Making Sense of Qualitative Data*. London: Sage.
- Dawson, C., (2002) *Practical Research Methods*. Oxford: How to books.
- Department of Communities and Local Government (CLG) *Indices of multiple deprivation 2010* Retrieved February 10, 2014 from <http://data.gov.uk/dataset/index-of-multiple-deprivation>

Department for Work and Pensions (DWP) (2012) *Universal Credit* Retrieved December 3, 2013 from <https://www.gov.uk/universal-credit>

Department for Work and Pensions (DWP) (2013) *Claimants required to undertake supervised jobsearch at new centres* Retrieved December 15, 2013 <https://www.gov.uk/government/news/claimants-required-to-undertake-supervised-jobsearch-at-new-centres>

Department for Work and Pensions (DWP) (2014) *Universal Credit: First year of welfare transformation and north west next steps* Retrieved May 20, 2014 from <https://www.gov.uk/government/news/universal-credit-first-year-of-welfare-transformation-and-north-west-next-steps>

Dutton, W., Helsper E. & Gerber M. (2009) *Oxford Internet Survey 2009 Report: The Internet in Britain*. OxIS. Retrieved June 24, 2012 from <http://www.oii.ox.ac.uk/microsites/oxis/publications.cfm>

Eynon, R. & Helsper, E. (2011) Adults learning online: digital choice and/or digital exclusion? *New media & society*, 13 (4) 534-551.

Fairweather, B. & Rogerson, S., (2002) *Implementation of e-voting in the UK.-Technical Options Report* London: DCA.

Festinger, L., (1957) *A Theory of Cognitive Dissonance*. Stanford, CA: Stanford University Press Retrieved May 23, 2006 from <http://tip.psychology.org/festinger.htm>

Fontana, A. & Frey, J., (2000) The Interview: From Structured Questions to Negotiated Text. In N. Denzin, & Y. Lincoln, (eds) *Handbook of Qualitative Research*. 2nd ed. (pp 645-672) London:Sage.

Government Digital Strategy (2012) *Government Approach to Assisted Digital* Retrieved December 4, 2013 from <https://www.gov.uk/government/publications/government-digital-strategy>

Hilbert, M. (2010). When is Cheap, Cheap Enough to Bridge the Digital Divide? Modelling Income Related Structural Challenges of Technology Diffusion in Latin America. *World Development, The Multi-Disciplinary International Journal Devoted to the Study and Promotion of World Development*, 38(5), 756-770.

Hill, A. & Notti, J. (2009) *Costing Customer Time* Research Paper London:HMRC

The Independent Commission Alternative Voting Methods (ICAVM) (2002) *Elections in the 21st Century: from paper ballot to e-voting*. London: Electoral Reform Society.

Ipsos (2012) *Media CT Media Literacy: Understanding Digital Capabilities* Retrieved November 15, 2013 from http://downloads.bbc.co.uk/learning/learningoverview/bbcmedialiteracy_26072012.pdf

Jaeger, P. & Bertot, J. (2010) Transparency and Technological Change: Ensuring equal and sustained public access to government information. *Government Information Quarterly* (27) 371-376

Kelle, U., (2004) Computer Assisted Qualitative Data Analysis. In C. Searle, G. Gobo, J. Gubrium, & D. Silverman (eds) *Qualitative Research Practice* (pp 473-489) London:Sage.

Kersting, N. & Baldersheim, H., (eds) (2004) *Electronic voting and democracy: A comparative analysis*. London:Palgrave

Litt, E (2013) Measuring users' internet skills: A review of past assessments and a look toward the future *New Media Society* 15 (61)

Longley, P. & Singleton, A. (2009) *Linking Social Deprivation and Digital Exclusion in England Urban Stud* 2009 46: 1275 Retrieved November 23, 2013 from <http://usj.sagepub.com/content/46/7/1275>

Mason, M., Sinclair, D., & Berry, C. (2012) *Nudge or Compel? Can behavioural economics tackle the digital exclusion of older people?* Retrieved January 12, 2014 from www.ilcuk.org.uk

Miles, M. & Huberman, M., (1994) *Qualitative Data Analysis*. London:Sage.

O'Callaghan, R., (1998) Technology Diffusion and Organisational Transformation: An Integrated Framework. In T. Larsen, & E. Maguire, (eds) *Information Systems Innovation and Diffusion* (pp 390-410) London:Idea Group.

Office of National Statistics (ONS) (2013) *Internet Access Households and Individuals*, 2013 Retrieved 24 March, 2014 from <http://www.ons.gov.uk/ons/rel/rdit2/internet-access---households-and-individuals/2013/sty-ia-2013.html>

Patton, M., (1990) *Qualitative Evaluation and Research Methods*. London:Sage.

Patton, M., (2002) *Qualitative Evaluation and Research Methods*. 3rd ed. London:Sage.

Rogers, E., (2003) *Diffusion of Innovations*. 5th ed . New York: Free Press.

Rotik, M. & Perry, L. (2012) *Insight to support Universal Credit user centred design* Retrieved November 3, 2013 from <http://research.dwp.gov.uk/asd/asd5/rports2011-2012/rrep799.pdf>

Sedley, A. & Muller,H. (2013) *Minimizing Change Aversion for the Google Drive Launch* Retrieved January 15, 2014 from <http://static.googleusercontent.com/media/research.google.com/en//pubs/archive/41221.pdf>

Shelter (2012) *Universal Credit* Retrieved November 15, 2013 from http://england.shelter.org.uk/get_advice/universal_credit

Sobh, R. & Perry, C.,(2006) Research design and data analysis in realism research *Journal of Marketing* 40 (11/12) 1194-1209

Sourbati, M (2012) Disabling communications? A capabilities perspective on social inclusion and communication policy *Media Culture Society* 34, 571

Stake, R., (2000) Case Studies. In N. Denzin, & Y. Lincoln, (2000) (eds) *Handbook of Qualitative Research*. 2nd edition. (pp 435-454) London:Sage.

Thornton, J. (2013) *Cyber security capabilities varies dramatically across UK public sector* Retrieved January 21, 2014 from www.ukauthority.com

Van Dijk, J. (2011) Internet Skills and the Digital Divide. *New Media Society* 6(13) 893-911

Van Deursen, A. & Van Dijk, J. (2009) Improving digital skills for the use of online public information and services. *Government Information Quarterly* 26 333-340

Welfare Reform Bill *Universal Credit Equality Impact Assessment* (2011) Retrieved November 13, 2013 from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220152/eia-universal-credit-wr2011.pdf

West Lancashire *Highways Masterplan* (2014) Retrieved February 15, 2014 from <http://www.lancashire.gov.uk/corporate/web/?siteid=5489&pageid=43608>

West Lancashire Borough Council (WLBC) *Local Plan 2013* Retrieved January 23, 2014 from http://www.westlancashire.gov.uk/planning/planning_policy/the_local_plan/the_local_plan_2012-2027/local_plan_preparation_stages/stage_5_-_adoption.aspx