

PUBLIC SECTOR ONLINE COMMUNICATION CHANNEL ADOPTION AND USAGE AMONGST OLDER ADULTS: A UK LOCAL GOVERNMENT PERSPECTIVE

Research in Progress

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Abstract

The UK government like many other countries around the globe has moved from classic communication channels of delivering services (face-to-face, or the telephone) to a more digital approach using the internet. This includes using the internet as both a communication tool and an information source to improve efficiency in their services. Access to, and growth of these online communication mediums due to the internet has created new opportunities for the public sector; thus, forcing the public sector to adapt to this changing environment by introducing online products and services. However, not all the citizens are making use of these changes; particularly, for the purposes of this research, the older adults. Of all the various age groups in society, the ageing population is one that is presently causing immense concern. Therefore, the aim of this research-in-progress paper is to understand and identify the factors that encourage older adults to continue using a particular online communication channel when interacting with the government. This research-in-progress paper also provides the implications and benefits of this research to academia, policy makers and industry in this study and the future directions, limitations and conclusions of this paper.

Keywords: Older adults, online communication channels, continuous usage, UK public sector.

1. Introduction

Information and Communication Technologies (ICT) such as the internet have changed the ways of communication, information seeking behaviour, and lifestyles of individuals (Lean, 2009). By accessing the internet, individuals can make informed decisions regarding their daily lives, shopping, or work activities. This technological revolution has transformed the world and its connectivity and due to these advances, online services are quicker, more convenient and cheaper to use (Sharit et al, 2008). The developments in the internet offers a new, effective and efficient means by which citizens can contact government departments to express their views or concerns. This online interaction between governments, organizations and citizens is simply known as Electronic or (e) government. An increasing number of developed countries are using ICT to modernize and increase internal efficiency as well as, to improve service delivery by providing services between the Government to Citizens, Government to Business, Government to Government and Government to Employee (Santhanamery & Ramayah, 2013).

The United Kingdom (UK) has been implementing these developments, which has led to a shift from face to face to a more digital mode of communication via the internet (Choudrie et al, 2013). Presently, local governments in UK provide over six hundred public services to the local vicinities, which are provided using digital/online channels; thus the emergence of e-Government, which in this research refer to Government to Citizens e-government. It has also been learnt that not all the citizens are making use of these changes in the public sector, which includes the older adults (Ofcom, 2013).

In the United Kingdom (UK), a national survey in 2012 found that 16.4% of the UK population is older than 65 years old, with around 40% of the population being older than 45 years old and this trend is set to continue and not to reduce (Office for National Statistics, 2012). Due to medical advances and an improving quality of life, some older adults are still in employment or becoming entrepreneurs; thereby owning and managing enterprises (Meyer, 2013). As ICT, especially the internet becomes increasingly important in the current day society, governments cannot ignore the fact that some of the citizens; for example older adults, are excluded from the benefits related to internet usage, thus the existence of digital divide (Niehaves & Plattfaut, 2010). This poses to be a problem as the internet is the communication channel of the future and it is also the one that governments are making substantial investments in. As a result, if non-adoption occurs, then there is a low return to investment or value, which is not beneficial to governments, citizens and taxpayers alike.

Given that non-adoption is occurring and older adults are increasing and the role of internet based products and services is growing, for this research, comparisons in terms of the online communication channels that are used to communicate with the government are made. One communication channel to be considered is Facebook, an Online Social Network (OSN) that is viewed to be a novel communication channel. Comparatively, e-mail, also a communication channel that is considered to be a classic communication channel and applied in this research is considered. By forming this distinction, this research intends to draw comparisons of the citizens' adoption and uses of these communication channels when interacting with the local government.

These communication channels were selected because Facebook is an OSN that is becoming increasingly popular, particularly given that its usage and adoption rate are intensifying. According to statistics (Facebook newsroom, 2015), Facebook has daily active average users of about 936 million across the globe as at 2015. Equally, it has been found that the UK has witnessed an elevated increase in the number of Facebook users (Gadsby, 2010). These growing numbers have led to forward thinking governments to implement and utilise this application in establishing relationships and maintaining conversations with community members. Conversely, e-mail has been in use as an online communication tool since the internet proliferated society and organizations; hence providing motivation to examine this topic (Aamo, 2011).

Another motivating factor for pursuing this study also emerged due to the reasoning that communication between governments and citizens is important for any country- socially, economically and politically (Wang & Lim, 2011). As new ICT are introduced in the public sector, the need to focus on whether and if these new services appeal to customers, especially the older adults and on the willingness of customers to continue to use the services arises (Zhao et al, 2012). Instant messaging, social networking, and blogging have become important as communications tools, but email remains the most popular online activity particularly amongst older Internet users, a trend noted in the United States of America (USA) (Jones and Fox, 2009). Some research studies carried out on online social network continuous use for instance, Facebook within younger and older adults revealed that the older adults' user numbers are lagging behind the younger age groups (Zajicek, 2007). Using the above mentioned as motivating factors, it was recognised that a research gap existed that led to the aim of this research to be formed:

To understand and identify the factors that encourages older adults to continue using a particular online communication channel when interacting with the government.

To fulfil this aim, the following research question has been formed:

What factors motivate older adults' choice towards a particular online communication channel when dealing with the government?

In this research-in-progress paper, a conceptual framework that will assist in answering the research question and fulfilling the aim is provided. The benefit of this conceptual framework to academia is that factors such as, knowledge building experience of a user, trust, service quality and continuance intentions are combined in the extended framework to determine whether older adults who are viewed to be 'digital immigrants' are accepting and using the new or older technologies. For policymakers, this conceptual framework will identify the online communication channels that promote interaction with citizens at a local government level. Equally, the framework that this study would provide will benefit industry by informing providers of communication channels to the government to be aware of the factors that influence older adults' choices when interacting with the government.

Having provided the aim, research question and introduction to this research, the following section explains the theoretical background to this research. This followed by a description of the proposed research model. The proposed methodology is then presented followed by the conclusion to this research-in-progress paper.

2. Theoretical Background

2.1 E-government and Local Government

The internet has become pertinent to individuals lives as it proffers an information seeking and providing role; one involving a fundamental process that people engage in to acquire knowledge or solve problems (Sharit et al, 2008). When considering the link between government and citizens, internet use allows citizens to provide knowledgeable decisions, offers opinions, allows access to government information and interaction with government departments. To keep citizens abreast of the latest government decisions, policies, and service, several government websites such as, the UK Central government group provide their content via RSS feed. The OECD (2001) in their report categorised government-to- citizen communication in policy making at three levels; namely, information, consultation and active participation. This research will be concentrating on the consultation level, which is equally known as government -to-citizen (G2C) communication. This could be described as the use of internet technology to facilitate greater interaction between government and its citizens (Nasir, 2014). It characterizes an interactive communication channel that allows citizens to send their comments and feedback to government services (Hermana & Silfianti, 2011). Scholars and practitioners researching the relationship between G2C suggest that the most important interactions between citizens and government occur at the local level and these relationships could become closer with more frequent use of the ICTs (Sandoval-Almazan & Gil-Garcia, 2012). Whilst such changes are occurring at the Central government level, Local government authorities are also pursuing such technological changes as this assists them to deliver their services to local communities in more efficient ways and allows, using this medium, the voices of the citizens to be attended to (Cochrane, 2015). Examples of services impacted by the technological changes are local transport, communications relating to health, welfare support to the community, or retirement benefits. In the last few years, the UK government especially at the local government level has begun to employ online communication mediums such as, blogs, Facebook, Twitter and YouTube as these online communications channels are changing the way that governments engage and interact with their citizens. By doing so, governments are moving citizens' interaction from email to an online social networking environment.

2.2 Communication channels

Communication has greatly altered and developed in the last two decades. At the start of the last decade, the introduction of the internet led to changes in communication and relationship building (Gato & Tak, 2008). An online communication channel is viewed to be an online tool or a process used by the public sector and it allows citizens to interact (Wang & Lim, 2001). These online communication channels enable information to be shared instantaneously and effectively. Communication channels that are employed within the public sector are in the form of three categories. The classic forms of communication as identified by Rogers (1983) are: telephone communication, face-to-face communication (i.e. a conversation that an individual have while facing another individual) and online based communication i.e. internet-based-communication that takes place utilising a global connection of networks (Lee, 2010). Recently, research has been conducted on communication channels due to innovative ICT in the information systems arena. A study of the continuous use of e-learning services suggested that ease of use, playfulness and usefulness are considered important issues in information technology usage (Chiu & Wang, 2008). Whilst the previous studies emphasised the continuous intention aspect, a study of China's citizens preferred choice of communication channel when receiving publicly available information and expressing their personal opinions revealed that citizens have diverse preferences of communicating (Wang & Lim, 2011). A European based study of Germany and Australia explored individual differences on service channels for e-government services and found diverse preferences on the choice of communication channel in each of the countries studied (Plattfaut et al, 2013). Reddick & Turner (2012) in their study of communication channel choices suggested that citizen's use of communication channels depends upon the gratification and utility that is received. In terms of the communication channels used by older adults, studies have shown that older adults are more interested in using email as a form of communication especially with friends, families (Madden, 2010; ONS, 2014). This is due to e-mail being considered to be effective at increasing social interaction within the elderly (Charness et al, 2001).

2.3 The Digital Divide and Older Adults

The differences that exist in the ways individuals use and accept their ICT and innovative technologies are associated with characterizations that are widely referred to as the digital divide (Tsatsou, 2011). A basic strategy for overcoming the digital divide has been to provide physical access to computers; but, as Warschauer (2004) clarifies, there are additionally three further aspects with regard to resources: Digital resources (material made avail-

able online); Human resources (in particular literacy and education) and Social resources (the community, institutional and societal structures that support access to IT). The aspects that Warschauer (2004) identified as important formed the basis of this research when evaluating and identifying the non-technical and technical factors that lead to the adoption and usage of technology by older adults. The digital divide often referred to as the “information gap” or “information inequality” has promoted immense debates that have resulted in the digital divide being considered in a variety of contexts, including socio-economic status, gender, age, racial, region or geography (Tsatsou, 2011). One significant component of the digital divide is age (Selwyn et al., 2003). Having lived many years in the world without the internet, older adults tend to perceive the internet as a ‘non-essential’. Additionally, age related problems such as declining eyesight and arthritis pose to be major challenges to overcome when viewing computer monitors and co-ordinating mouse interaction. This has resulted in a significant age-based divide between young and old with internet use declining in every advancing age group (Greengard, 2009). Thus, age is the clearest demographic predictor of social media adoption, with younger adults more likely than older adults to use online communication technology (Chou et al., 2009; Madden and Zickuhr, 2012; Maier et al, 2011). In e-government, Belanger & Carter (2006) viewed the digital divide as a distinction between those that have both the access and skills needed to take advantage of these new ICTs and those who do not. As a result, one important aspect of the local government policy is to bridge this so called ‘digital divide’. Therefore, from these results it can be learnt that older adults’ internet use is of immense importance to society not only for general purposes, but for personal matters that the public sector can help with.

3. Development of research model and hypotheses formulation

To understand the issues relating to the proposed research, a conceptual framework has been formed consisting of existing theoretical factors applied from adoption, acceptance and continuance usage theories. These theories and previous research utilizing these theories are identified and explained in the following sections.

3.1 Expectation –Confirmation Theory (ECT)

The ECT holds that consumers’ intention to continue service use is primarily determined by their satisfaction with prior use of that service (Oliver, 1980). The ECT theory and model were modified and tested in the IS research area by Bhattacharji (2001b). The ECT model has been used in some studies to address post-adoption issues when using a service or product (Bhattacharjee, 2001b; Bhattacharjee, 2001a; Thong et al., 2006). What has also been learnt is that an individual’s expectation about a product or services usually forms the basis for confirmation when actually using the product or service. This in turn will determine an individual’s level of satisfaction (Limayen & Cheung, 2008). The effect of confirmation on satisfaction in determining continuous intention of web based services was studied where it was found that confirmation positively influences satisfaction which leads to continuous use of web based services by customers (Lee & Kwon, 2010). It has also been argued that ECT should be used to examine the continuance intention of IS users rather than just to explain satisfaction (Hossain & Quaddus, 2012); hence, encouraged this research in progress to make use of ECT. Based on these explanations, this research study posits the following;

H1: Confirmation and satisfaction have significant impact on older users’ continuance intention to use a particular online communication channel.

3.2 Unified Theory of Acceptance and Use of Technology (UTAUT)

When considering the acceptance and usage of ICT, the Unified Theory of Acceptance and Use of Technology (UTAUT) has served as a baseline theory of the study of various technologies in both organizational and non-organisational settings (Tan, 2013). UTAUT provides a model to assess the likelihood of adoption for a new technology where the reasoning for formulating this theory involves integrating some IS theories and research on individual acceptance of ICT into a unified theoretical model (Venkatesh et al, 2003). By combining the explanatory power of selected theories and models, UTAUT provides a strong foundation to inform future research in the technology adoption area. On the other hand, critics of this model argued that this model was improved by integrating three factors (hedonic motivation, price value, and habit) in order to fit into the consumer technology use context that resulted in the Unified Theory of Acceptance and Use of Technology 2 (UTAUT 2). As UTAUT 2 is an improvement to UTAUT and the flaw which was stated above that existed in UTAUT has been overcome in UTAUT 2, UTAUT 2 was employed in the formulation of the proposed research model for this research. Specifically, the factors ‘performance expectancy’ and ‘habit’ were applied within the proposed research framework. Research carried out by studies have shown these factors to be strong determinant of user’s continuance intention to use information technology (Martins et al, 2014; Chen & Meng, 2013; Rodriguez &

Trujillo, 2014; Hsieh et al, 2014; Nguyen, 2014; Nasri, 2014). Based on these explanations, this research study posits the following:

H2: Performance expectancy has a positive effect on older users' confirmation of an online communication channel.

3.3 Trust

Trust has always been an important factor in online communication and usage and is something that is experienced on a daily basis. Despite its high rate of frequency, trust is a concept that is quite challenging to define. For example, trust is a strong belief in the capability of a thing to act consistently, securely and dependably within a definite context (Grandison & Sloman, 2000). Within e-government research, trust has been investigated using concepts drawn from e-commerce, where trust was considered to exist in two forms: Trust of the Internet and trust of the government (Carter and Belanger, 2005). Unlike initial acceptance decision, continuance intention depends on various factors that affect the individual's decision to continue using a particular system, with trust being one of the most important factors (Santhanamery & Ramayah, 2013). Since this research is focused on e-government and it is anticipated that trust is going to be a matter to contend with, this study will use two classes of trust that are decision and reliability trust (Josang et al, 2005). This construct was selected to understand whether the older adults' choice to continue using a particular communication channel to deal with the government depends on the trust quality of the channel. Due to these two forms of trust being based on a positive belief about the object that the trustor depends for welfare, they are included in the conceptual framework. In light of the aforementioned evidence, the following hypothesis is proposed:

H3: Trust affects users' confirmation on the choice of online communication channel.

3.4 Channel Expansion Theory (CET)

While IS as a distinct area of research has the potential to be a reference for other research areas, it is rational to argue that information systems theorizing can benefit from fresh new insights from other fields of inquiry. This will in turn enhance even more, the reference potential of IS (Kock & Myers, 2002). As a result of this, a new novel theoretical factor was developed through a media perception theory called the Channel Expansion Theory (Carlson & Zmud, 1994). This theory posits that an individual's relevant experiences are central factors that influence perceptions of a channel's richness. In other words, an individual's experience with using a channel will increase one's understanding of how to use a channel competently; hence, an individual's perceptions of its richness. Equally, Carlson and Zmud (1999) noted that because richness perceptions are socially constructed they are subject to social influence, which is also an important factor when considering adoption and usage of a technology. Carlson and Zmud (1999) identified four knowledge-building experiences that influence one's perception of a channel's richness: experiences with communication partners, the message topic, and the communication media utilized. However, this study is going to adopt one of the four knowledge building experiences which is the 'communication media utilized' for the conceptual framework. As an individual develops and confirms an experience with communicating with others using a specific channel such as e-mail or Facebook, they may develop a knowledge base for that particular channel. As a result, they will more competently (actual usage) apply the communication channel in various situational context .e.g. communicating with the government. Thus, the following hypotheses:

H4a: Knowledge building experience has a positive effect on older users' confirmation of an online communication channel.

H4b: Knowledge building experience has a positive effect on older users' actual usage of an online communication channel.

3.5 Service Quality

Based on marketing terms, service quality can be seen to be a measure of how well the service level delivered by a product or service matches customer expectations (Lewis & Booms, 1983). In essence, delivering a quality service means conforming to customer expectations on a constant basis. Service quality is the consumer's perception of what a standard service should deliver and the measure against what is delivered and is viewed to have the potential to influence users' expectation and the perceived performance of choice of online communication channel (Zhao et al, 2012). Therefore, if an older adult is not actually receiving the actual quality he/she expects from a particular online communication channel, it could make them discontinue a service. Research carried out by Roca et al (2006) suggests that of the determinant of user's continuance intention is service quality. Pitt et al (1995) suggested that information researchers should include a measure of service quality in the

assessment of information system effectiveness. To understand service quality researchers have considered it from diverse viewpoints. An empirical test measured service quality in three dimensions; namely, interactive quality, environmental quality and outcome quality (Zhao et al, 2012). Three important items for measuring service quality have also been identified: call quality, value added services and customer support (Kim et al, 2004). Gronroos (1982) on the other hand proposed two types of service quality namely: technical and functional quality, which would be included as, constructs in our conceptual framework. Thus, the following hypothesis is proposed:

H5: Service quality has a positive influence on older users' confirmation of an online channel.

Based on the above discussion, a conceptual framework has been developed as shown below. The main features of the conceptual framework model are drawn from the theories of UTAUT, CET, Trust and Service qualities that are used to extend the expectation confirmation theory which is acting as a guide to the selection of our model factors.

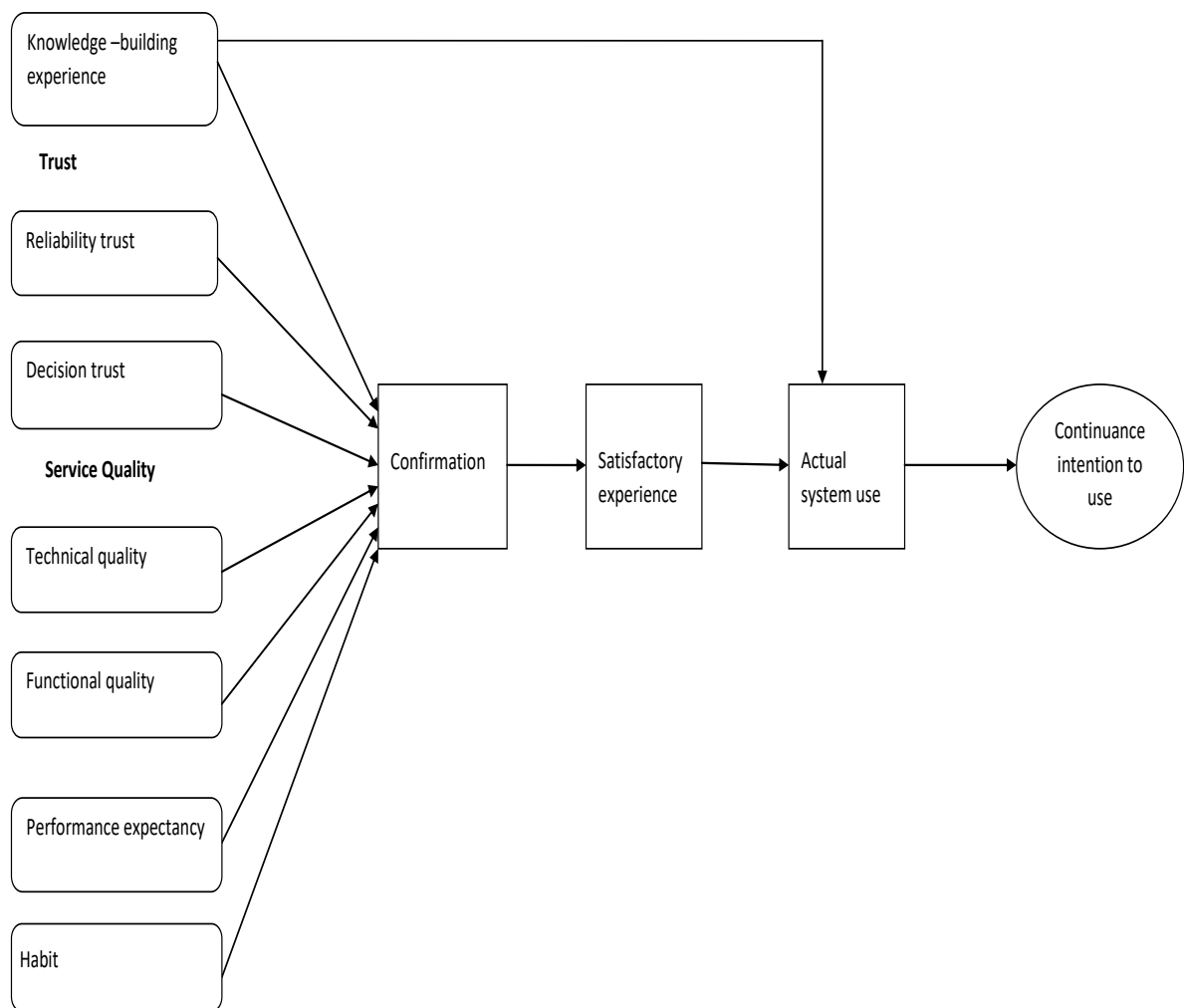


Figure 1: The conceptual model for online communication channel usage.

4. Proposed research methodology

When determining the research approach for this research, ICT and continuance intentions research approaches were reviewed (Gatto & Tak, 2008; Basak & Calisir, 2015, Shiao & Luo, 2013; Ihm & Hsieh, 2015; Limayem & Cheung, 2008; Zhou,2013; Sun & Jeyraraj,2013; Ku et al, 2013; Zhao, 2012, Atcharyachanvanich et al, 2006). From this review and assessment, timing, the abilities to gather an understanding from larger sample numbers

and accessibility led us to consider a quantitative research method that will enable the research team to achieve its aim. A survey questionnaire was designed based on the above discussed constructs to test the proposed research model. A pre-test was completed as one of the validation stages of the survey instrument. For this, 15 experts that included academics and experts familiar to the opinions of older adults were used. The feedback received from the experts led to an alteration of the questionnaire. For the second stage of the validation which is the pilot, a construct validity test with an estimated 250 individuals will be completed. A link to the questionnaire will be listed in a hard copy flyer that will be disseminated by hand in the Hertfordshire area of UK. Hertfordshire was chosen because it is the second largest county in the East of England and one of the Counties in England that operates a two-tier structure i.e. a county and a district council which makes it unique. Census carried out in 2011 showed that the population of Hertfordshire is 1.16 million and 33% represents older adult. The Office of National Statistics has projected that the older adult population in Hertfordshire will increase to 41% by 2037 which is a problem that is causing immense concern (HertLIS, 2013). Further, life expectancy in Hertfordshire has been found to be above the national average and people continue to live longer because of the high standards of living and good quality of life the residents enjoy. As Hertfordshire citizens live longer it means both the number and proportion of older people is set to increase over the coming years. (Hertfordshire 2021: A Brighter Future). Upon completion of the 250 pilot survey responses, the data from each response will be processed in a database that will utilise statistical analysis using the software package of SPSS. This is to ensure that the questions are understandable and can be completed within the scheduled duration. After, the assessment and analysis of the pilot study which will help this research study in the refinement of the survey items, the final survey questionnaire will be disseminated within older adults in the Hertfordshire area using cluster sampling. This is to ensure that over 1000 completed replies from a population of about 8, 000 are received. For analysis, the software package of SPSS will also be used and appropriate analytical techniques such as, Partial Least Squares or Structural Equation Modelling (SEM).

5. Conclusions

To conclude, the aim of this research is to understand and identify the factors that encourage older adults to continue using a particular online communication channel when interacting with the government. A conceptual framework based on leading information system theories of ECT, UTAUT, CET along with service quality and trust factors has been developed to help in addressing the research aim of this study. Prior to forming the framework, a literature review of the main issues surrounding online communication channels, digital divide and older people and e-government were provided. In this research paper the implication of establishing a framework that encompasses trust, service quality and continuance intentions, it will be determined whether older adults who are viewed to be 'digital immigrants' are accepting and using the new or older technologies. Prior research has focused upon whether older adults are accepting diverse types of e-government services or the impacts of the existence of the internet on older adults' lives. This research has proceeded to a higher level and intends to show that government service deserve and merit an attention which if not attended to, could impact the adoption of novel or classic forms of communication. Secondly, by considering such research, public sector and private sector providers of ICT can learn whether the provided services and products are indeed being accepted by citizens, more than it's recognised as one that is disadvantaged. If the novel forms of ICT are not being accepted, then the revelations provided by the conceptual framework application in practice could identify means that the adoption and use of novel products and services could be increased and is possible. For the policymakers this research study provides conceptual framework that they can use to determine whether their efforts to introduce and implement strategies to increase access to innovations such as, high speed broadband are making an impact on all members of society and not particular groups or individuals. Also, a description of the applied research approach was also offered. This implies that the next phase of this research involves data collection that is anticipated to take about a year for the pilot phase and a further six months for the final phase of this research. It is recognised that the limitation that is associated with this research is the emphasis on the age range i.e. 50 years and above and the sample population, which is just restricted to Hertfordshire. To overcome these limitations, future directions for this study would include selecting different age ranges and a larger sample size drawn from regions of UK in order to form generalisations about the older population in the UK.

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