
Rapid Review of Evidence for Digital Inclusion

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1. INTRODUCTION

In July 2017, University of the West of Scotland (UWS) was commissioned by SCVO to produce a Rapid Review of Literature on essential digital skills, within a broader context of digital inclusion and exclusion (Mcgillivray, Jenkins and Mamattah, 2017). As part of SCVO's continued involvement in the One Digital project – a multi-agency approach to addressing digital inclusion using a digital champion model – there was a recognition that an update of the available grey and academic evidence would be produced in 2019, to reflect the contribution of further research in the field, reviewing evidence and learning in relation to the following key criteria:

- Statistics and trends on digital inclusion and exclusion across the UK, with particular consideration given to the Scottish context.
- Identification of the key issues and barriers facing particular groups of people experiencing digital exclusion.
- Learning from recent projects and programmes which have aimed to address digital exclusion.
- Understanding of the economic and social benefits of tackling digital exclusion and of individuals developing essential digital skills.

2. METHODS

To meet the project requirements, we undertook a rapid review (RR) of the published literature. The RR is, by definition, time limited, and sources are therefore similarly limited. However, it is a particularly useful methodological approach for third sector partnerships, where funding is also often time limited and where a rapid evidence synthesis can provide timeous and useful information for decision making compared with standard systematic reviews. RRs also lend themselves well to emerging, fast developing research topics such as digital inclusion, and have been used extensively in the healthcare sector where the methodology is applied to support evidence-informed health decisions (Khangura et al., 2014). For the purposes of this RR, four key research questions were agreed, these having formed the core objectives of the first review. The review follows the same format as the original review for ease of cross-referencing.

The questions addressed in this review are:

- Q1:** What is the current extent of digital inclusion in the UK?
- Q2:** What sociodemographic factors impact upon digital inclusion and how might these barriers best be addressed?
- Q3:** What interventions ‘work’ and which interventions look ‘promising’ in promoting digital inclusion?
- Q4:** What are the primary social and economic benefits associated with digital inclusion and how are these best realised?

Google Scholar was the selected tool for online article search, applied to both academic and grey literatures. Due to the fact that this review was developed to build on findings of the Rapid Review published in 2017 (Mcgillivray, Jenkins and Mamattah, 2017), a limited date range of 2017-2019 was applied across all searches, to avoid overlapping with the last review. The following key search terms and combinations were applied: ‘digital inclusion AND digital exclusion’; ‘digital divide’; ‘digital inequality’; ‘digital inclusion, factors’; ‘digital inequality, factors’; ‘digital exclusion, factors’. This initial searching produced a significant body of literature for consideration even in the two years since the last review, in both the grey (12 reports) and academic (20 articles).

3. FINDINGS

3.1 What is the current extent of digital inclusion in the UK and Scotland in particular?

In March 2017, the Scottish Government refreshed its digital strategy for Scotland, outlined in Realising Scotland’s full potential in a digital world: a digital strategy for Scotland which sets aspirations for greater digital participation, with funding for third sector organisations working to address digital exclusion. The policy also states that Scottish Government will work closely with schools, employers and skills providers to tackle the persistent gender gap in digital skills and careers. For young people, the strategy also highlights a commitment to ‘digital rights and responsibilities that empower people to access the digital world creatively, knowledgeably and fearlessly’. This Scottish policy context is important as many issues related to digital participation are impacted by devolution, particularly education, welfare and health. Within the Scottish context, the Scottish Council for Voluntary Organisations (SCVO) lead the digital inclusion movement through the digital participation charter, and they are a partner in a major UK-wide digital inclusion programme, One Digital, which aims to advance organisational and individual capacity to benefit from the digital sphere.

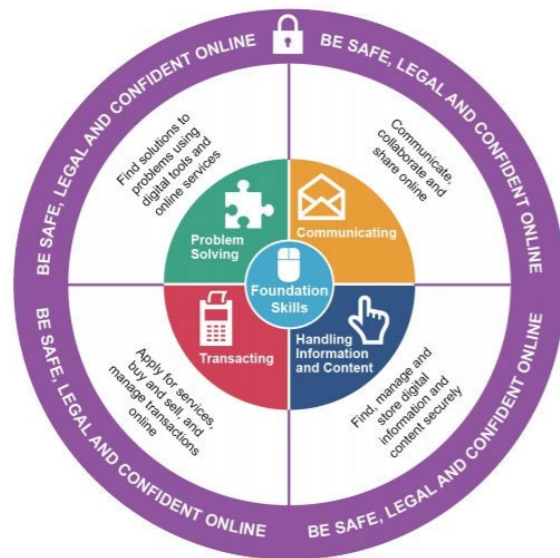
SCVO, like other organisations tasked with supporting digital inclusion in Scotland, must take cognisance of a range of ‘frameworks’ that have been developed to more systematically address the multitude of digital skills requirements of organisations and service users. In early 2019, the DQ Global Standards Report introduced a common framework for digital skills, literacy and readiness (DQ Global Standards Report 2019 Digital Intelligence, 2019), noting that ‘Digital Intelligence (DQ) is a comprehensive set of technical, cognitive, meta-cognitive, and socio-emotional competencies that are grounded in universal moral values and that enable individuals to face the challenges and harness the opportunities of digital life.’ (DQ Global Standards Report 2019 Digital Intelligence, 2019, p8). This framework is a cross-sectoral, transnational piece which collates findings across various frameworks (DQ Global Standards Report 2019 Digital Intelligence, 2019) and seeks to synthesise these effectively, setting out standards that others can work to.



Source: DQ Global Standards Report 2019 Digital Intelligence, 2019

This framework was influenced, from a UK perspective, by the Tech Partnership’s work to define ‘essential digital skills’ (Essential Digital Skills Framework, 2018). This framework has been used by practitioners in the field of digital inclusion within the UK over the last year. In Scotland, SCVO has created the Essential Digital Skills toolkit to assist practitioners in making practical use of the framework (SCVO Essential Digital Skills Toolkit, 2018).

The Essential Digital Skills Framework contains simple checklists for measuring Foundation Skills and Essential Skills, and guidance on how to interpret the results. Essential digital skills are defined in four broad categories applicable both to life and work: communicating, transacting, problem-solving, handling information and content, all set within a context of being safe and legal online. (Essential digital skills framework - GOV.UK, 2018).



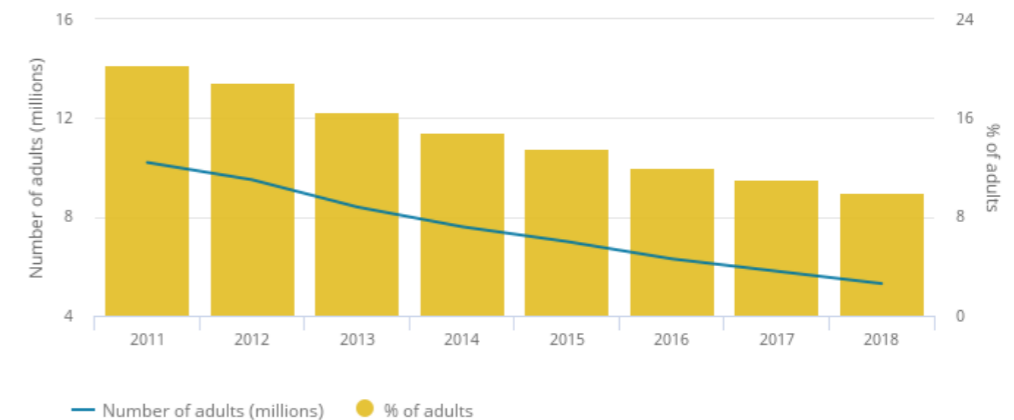
Source: (Essential digital skills framework - GOV.UK, 2018)

Application of these frameworks allow for the development of research such as Helsper and Van Deursen’s findings on the positive field based work in digital inclusion, and in particular the ways in which an individual’s engagement with one domain of essential digital skills may then impact on other areas, which they refer to as ‘collateral benefits’ (Van Deursen and Helsper, 2018).

Though these skills frameworks provide important guidance for organisations and individuals they tell us little about the current extent of digital exclusion in the UK. There is a growing body of grey literature that does seek to capture a snapshot of the current situation, drawing on the application of the essential digital skills framework in particular. One of the most well-respected source of digital exclusion data is the Lloyds Consumer Index. The 2018 Index evidences an ongoing decline in the number of adults with no digital skills to 8% of UK adults being unable to apply any of the above skills in 2018, compared with 10% in 2016. An additional 12% of adults were estimated to have limited essential digital skills (Lloyds Bank – UK Consumer Digital Index 2018). The Office for National Statistics (ONS) further highlights this improving trend, which was also evidenced in the 2017 review (Office for National Statistics, 2019).

Figure 1: The number of internet non-users has declined over time

Number (millions) and percentage of adult internet non-users, UK, 2011 to 2018



Source: (Office for National Statistics, 2019)

Within the Scottish context, the percentage of non-users of the internet has also declined significantly since 2012, from 20.2% to 10.7%, with approximately 80% of the population in possession of the necessary essential digital skills for life and work, and only 7% lacking foundation digital skills. These statistics reflect a narrowing of the digital skills gap with other areas of the UK.

However, despite the evidence pointing to improvements in the aggregate figures relating to the extent of digital exclusion, a deeper dig into the data suggests that some systemic issues that continue to prevent some groups from accessing the benefits of the digital world remain. For example, research carried out by the Prince’s Trust (Wilson et al., 2017) established that 10% of young people do not feel they have the essential digital skills for work; with 18% of young people claiming benefits feeling the same way. Moreover, the urban/rural divide in digital uptake appear to be persisting. Infrastructure remains a core element of this disparity, with ‘deep rural’ and ‘remote and rural’ areas facing the most significant challenges. In a recent Carnegie UK Trust report, Bowyer highlights that 12% of rural premises cannot even access a fixed basic broadband connection (Bowyer, 2017). Research reflects, however, that when broadband is made available in rural environments, then uptake and use reflects participation in the urban environment (Philip et al., 2017). Furthermore, on a positive note, community-led solutions increasingly meet the needs of such ‘deep rural’ areas, providing self-built infrastructure (such as the world-leading B4RN project) and creative satellite solutions (such as that being used by the Kyle of Sutherland Development Trust in partnership with a private provider). It should be noted, however, that satellite solutions, while providing access currently in locations where access was non-existent, are unable to match the speed and strength of fixed line, suggesting that such solutions are not ‘future-proof’ and that the urban/rural divide may remain a pressing issue in years to come (Philip et al., 2017).

3.1.2 Digital Skills vs Digital Understanding

Since the 2017 review it has been noticeable in that the academic and grey literatures both reflect a more nuanced approach to the development of digital skills, emphasising the need for a greater appreciation of digital understanding, rather than simply possession of practical skills. The 2018 Digital Attitudes Report ((People, Power and Technology: The 2018 Digital Attitudes Report, 2018) evidences this growing concern. The corresponding 2018 Digital Understanding Report, produced by doteveryone sets out a definition of digital understanding as separate from the development of basic digital skills. They argue that ‘Digital understanding is about appreciating the impacts of technologies – how they shape people’s lives and society as a whole.’ (People, Power and Technology: The 2018 Digital Attitudes Report,p8).

The evidence presented throughout doteveryone’s report highlight ‘digital blindspots’ for the individual as a worker and consumer and member of society, which inhibit their ability to question the implications of technology on their lives. The report stratifies digital understanding into three categories: aware, discovering and questioning with the latter being the most important. Doteveryone suggest that within a societal context, only 1% of individuals have sufficient digital understanding to considering how online debates can have a broader societal impact or how to exercise their own information rights that they have reached the ‘questioning’ level of engagement. The same percentage is unaware of the impact of media manipulation methods and techniques such as “bots” – software which runs automated responses - or understand why filter bubbles reflecting and reinforcing individual worldviews through algorithms are created and able to find ways to overcome them. This, in turn, continues to perpetuate a balance of power weighted heavily in favour of those creating technology and online platforms and those gathering data and influencing the individual.

White also evidences that individuals in lower socio-economic group are the least likely to adopt digital behaviours which protect their privacy and security online. (White and Carnegie United Kingdom Trust, 2017) His Carnegie UK Trust report suggested that within a Scottish context, people from lower socio-economic groups are less likely to turn off location services, use a passcode or use two factor authentication. This is of particular significance in the context of a shift towards universal credit which means individuals requiring benefits are forced into a situation where it is necessary to share highly complex and personal data with online systems, without the relevant skills so keep this information safe. Dodel and Mesch also note that increasingly, cyber security, at the individual level is ‘capital-preserving consequence of digital engagement’.(Dodel and Mesch, 2018). In other words, those within a higher socio-economic stratification and with the resultant digital skills are more able to protect their both their physical and online assets.

Furthermore, in their most recent work, Van Deursen and Helsper note that ‘A clear distinction needs to be made between the possession of Internet skills, undertaking different kinds of activities online, and the tangible outcomes in different spheres of

everyday life that result from this engagement’ (Van Deursen and Helsper, 2018, p3).

While digital understanding was referenced briefly in the first rapid review, this is increasingly a focus of interest in both grey literature and academic literature, with ongoing research into how ‘digital understanding’ can be defined and quantified. Furthermore, interestingly, White references a further challenge (White and Carnegie United Kingdom Trust, 2017) highlighting that while individuals may have some understanding of issues such as data privacy, they do not necessarily take the necessary steps to protect that privacy.

3.2 What sociodemographic factors impact upon digital inclusion and how might these barriers best be addressed?

3.2.1 Socio-economic deprivation

Research from the Carnegie UK Trust continues to evidence the link between inequality and a deepening digital divide. Poverty rates in the UK continue to climb: 30% of children, or 4.1 million, were living in relative poverty (after housing costs) in 2017-18 in the UK, and 70% of children living in poverty were in working families. The percentage of pensioners in relative poverty before housing costs rose from 17% to 18% between 2016/17 and 2017/18. Around one in ten adults have had difficulty paying for communications services; this is highest among younger consumers and those with long-term mental illness (Bowyer, 2017). It is therefore vitally important to continue to consider the impact of economic capital on digital exclusion, highlighted in the first review.

Lloyds Consumer Index also draws attention to the fact that 61% of people earning more than £25,000 have essential workplace skills, significantly higher than those earning less than £11,499 where only one-quarter have these skills (Lloyds Bank Consumer Digital Index 2019, 2019) and also that employees in manufacturing, construction, utilities and retail sectors are the least digitally skilled. Furthermore, unemployed people are 64% more likely to lack Essential Digital Skills for life than the UK average (36% vs. 22%). These statistics add further weight to the close relationship between financial and digital capital.

The available evidence suggests that disadvantaged young people – and in particular those not in employment, education or training (NEET) are using information and communication technologies more to engage in employment related activities, often through default services such as JobMatch, yet they were less likely than their peers to succeed, even partially, through this medium (46% compared to 65% of their employed peers (Princes Trust, 2016). One study in Australia evidenced that the socio-economic status of an area was related to computer use, IT activities, playing musical instruments, and participating in vigorous physical activity. Participants from higher income neighbourhoods, with greater socio-economic status (SES) were more exposed to school computers, reading, playing musical instruments, and physical activity. Participants from lower SES neighbourhoods were more exposed to TV, electronic games, mobile phones, and non-academic computer activities at home. The authors noted that these patterns may impact future economic,

academic, and health outcomes (Harris, Straker and Pollock, 2017).

A study of access - both physical and digital - to cultural spaces in the UK further evidences the disparity recreated by the digital space (Mihelj, Leguina and Downey, 2019). The results of this research confirmed that although digital environments could be used as a means of engaging new audiences, it continued to reproduce and indeed enlarge existing inequalities, with even fewer individuals of lower socio-economic groupings using digital to engage with cultural spaces. While digital may indeed allow for an extended marketing reach, it appears only to reach more people of similar social classes, and consequently creating a greater divide between the 'have and have-nots', not only reinforcing inequality, but deepening it through the creation of alternative barriers.

Bauer (2018) also highlights that the ability to make use of the digital space influences income distribution both directly and indirectly, highlighting that 'ICTs rarely are a single cause but interact with other technological, economic, and political forces to shape the extent of income inequality.' (Bauer, 2018). Van Deursen highlights (financial) resource as a cause of differentiation in access to the digital and in particular that individuals from higher socio-economic groups are more likely to have access to higher quality digital devices and peripherals, with stable access to higher speeds of connectivity, with less limitation on data (Van Deursen et al., 2017). This argument is complemented by Van Dijk's 'resources and appropriation theory' (Van Dijk, 2017) which determines that:

- 'Categorical inequalities in society produce an unequal distribution of resources.
- An unequal distribution of resources causes unequal access to digital technologies.
- Unequal access to digital technologies also depends on the characteristics of these technologies.
- Unequal access to digital technologies brings about unequal participation in society.
- Unequal participation in society reinforces categorical inequalities and unequal distributions of resources'. (Van Dijk, 2017)

This update supports the findings of the earlier review, with further research adding to the body of evidence clearly demonstrating not only the correlation between digital and financial exclusion, but also the possibility that the continued societal application of digital technology may serve to deepen such inequality unless positive nuanced interventions, both on the ground and at a policy level, are supported, especially if the current policy of digital first/digital only is pursued.

3.2.2 Disability

As was highlighted in 2017 review, disability is once again reflected as a key indicator of digital exclusion, with Ofcom's research (Ofcom: Access and Inclusion in 2018, 2018) mirroring disparities in access to digital environments already addressed in both last year's Lloyds Consumer Digital Index and developed in the 2019 report. (Lloyds Bank – UK

Consumer Digital Index 2018)(Lloyds Bank Consumer Digital Index 2019, 2019). The Ofcom report highlights that smartphone ownership by disabled people is markedly different: 53% of disabled people have a smartphone in their household compared to 81% non-disabled people. Furthermore, 67% of disabled people use the internet compared to 92% of non-disabled people. However, there are also differences by type of impairment. People with a learning disability display similarities in their use of communications services to non-disabled people. They are more likely than those with other disability types to have a smartphone in their household (70%) and access to the internet (86%). Those with a visual impairment are the most likely group to say their use of communication services or devices is limited by their disability.

Within a European context, research has shown that an individual with a declared disability is 62% less likely to have internet access at home than an individual without a disability. Additionally, an individual living with a disability is more likely to face additional barriers of financial constraints, a greater likelihood of unemployment, as well as ageing or living alone (Scholz, Yalcin and Priestley, 2017). It is also important to note that access to traditional cultural enablers for digital participation is, for disabled people, often 'strongly associated with differential levels of exclusion from mainstream education and employment in European countries' (Scholz, Yalcin and Priestley, 2017 p.10) – libraries, colleges and other similar community spaces may benefit some individuals, but not all. In terms of social isolation, 40% of online respondents in the Lloyds report indicated that being online helps them feel less alone, a benefit that is felt even more strongly among disabled people online, who are a further 27% more likely to express this view than non-disabled people.

For individuals with intellectual disabilities, research carried out by Chadwick et al indicate that, with only a small number of exceptions, both the risks and benefits of being online are believed to be greater for people with intellectual disabilities compared with those without intellectual disabilities (Chadwick, Quinn and Fullwood, 2017). The authors concluded that while there is clear evidence of the potential for significant benefits, the 'perception of increased risk may help to explain the reduced inclusion of people with intellectual disabilities in the online world' (Chadwick, Quinn and Fullwood, 2017, p22). Nine out of ten people with a learning disability reported that they have been the target of online bullying. While it is understandable that the those providing support are anxious about the increased risk, such concern negatively impacts on individual participation in the digital space, further entrenching exclusion amongst individuals with disabilities.

Furthermore, there is evidence of a distinct skills gap for those providing caring and support for individuals with intellectual disabilities, with only 43% of carers expressing confidence in their ability to support an individual with intellectual disability digital access (Chiner, Gómez-Puerta and Cardona-Moltó, 2017) with Chiner et al concluding that 'Training programmes for all the groups involved (i.e. people with intellectual disabilities, staff and family members) should be designed, implemented and assessed to promote the inclusion of people with intellectual disabilities in the digital arena.' (Chiner, Gómez-Puerta and Cardona-Moltó, 2017, p2).

3.2.3 Age

The third edition of the Consumer Digital Index reveals an ongoing intergenerational digital divide, also highlighted in the 2017 review. The proportion of people without digital skills is highest in older age groups, as 54% of the UK population aged 65 and over do not have the full suite of essential digital skills. In contrast, 96% of 15-24 year olds are in possession of these essential skills (Lloyds Bank – UK Consumer Digital Index 2018, 2018).

An obvious explanation for this is that younger generations have grown up with digital technology. However, issues related to social exclusion may also impact on the younger demographic. Vulnerable young people, especially those at recognised life transitions who are in care, excluded from mainstream education, homeless, unemployed, seeking asylum, are most at risk of experiencing digital exclusion (White, 2016). Additionally, digital understanding – as well as digital skills - are impacted by age. Those aged 55+ are less likely to verify information sources online and are less likely to use online banking. The Carnegie UK report titled Digital Savvy Citizens evidences a significant risk awareness amongst this demographic – people from this age bracket are less likely to share photos, use social media, download media files and use public wifi (White/Carnegie UK Trust, 2017) although this sits alongside the downward trend in the number of older adults which has continued.

3.2.4 The complexity of barriers to digital inclusion

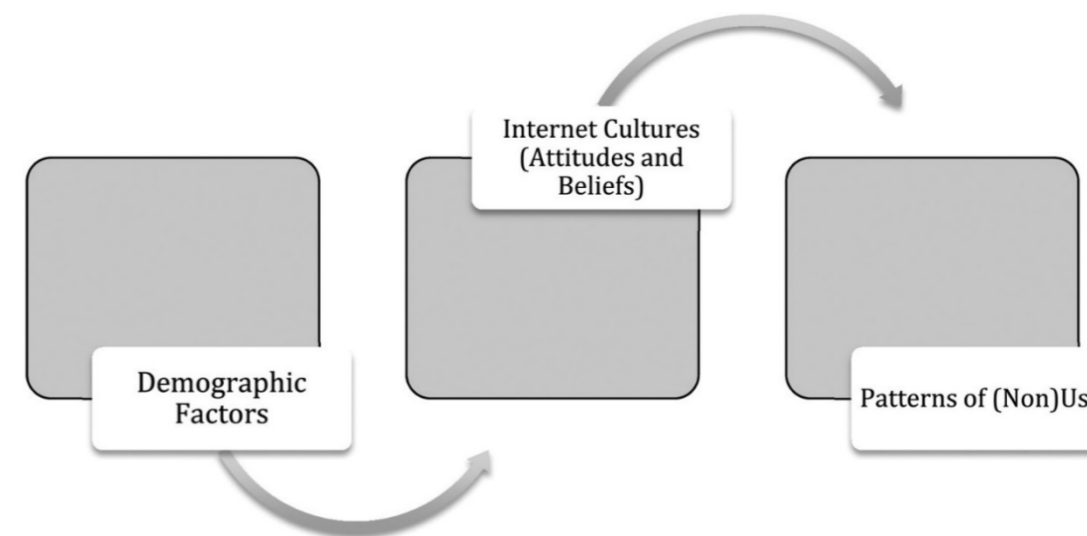
Good Things Foundation, in partnership with the University of Liverpool provide an interesting insight into some of the motivations of non-users of the internet, highlighting that 52% of individuals who do not engage online see no need, 44% access the internet by proxy, 19% have safety concerns, 15% say it costs too much, and 17% don't have the right equipment (Good Things Foundation, 2018). This paper combined quantitative and qualitative methods, interviewing learners at various Online Centres to understand their motivations.

The #NotWithoutMe programme supported four projects across the UK, each of which received £10,000 to test original engagement techniques and develop new practice to improve digital participation and increase essential digital skills for vulnerable young people. The project identified a number of key barriers including 'pushed out learners' with social, emotional or behavioural needs which have resulted in a lesser engagement with mainstream formal education, and consequent lack of literacy, numeracy and essential digital skills; limited resources in educational and support settings; lack of confidence amongst parents, carers, support workers and educators; the risk of 'additional vulnerability' (cited as a barrier with a project based in a pupil referral unit where some young people demonstrated offending behaviour online, or who became at greater risk of sexual exploitation (Wilson et al., 2017); and also advanced skills in one area may mask low skills in other essential digital competencies.

This risk of 'assumption of essential skills' is also a significant barrier for younger people

is highlighted in both grey literature such as #NotWithoutMe, but also in academic literature such as Scheerder et al's consideration of the way in which a family's educational background contributes to digital inequalities. (Scheerder, van Deursen and van Dijk, 2019). Furthermore, poverty impacts on access to the tools necessary to develop digital skills – low income household are less likely to have access to a home computer or to broadband, but rely instead on smartphone use. Robinson refers to the 'identity curation game' amongst younger people (Robinson, 2018, p661). Robinson sets out the rules for online engagement as '(1) constantly update or be sidelined, (2) engage in constant reciprocated identity-affirming interactions, and (3) maintain a strategy of vigilance to remove traces of failed identity performances.' (Robinson, 2018, p661) The findings of this research show how 'under-resourced youths experience connectivity gaps that disrupt their ability to play the identity curation game, as well as the resulting emotional consequences.' (Robinson, 2018, p661)

Research conducted by Dutton and Reisdorf also highlights the impact of 'internet cultures', defined by the researchers as 'five clusters of Internet users that vary in their attitudes toward the Internet as well as their socio-demographic backgrounds and their use of the Internet in general and social media specifically' (Dutton and Reisdorf, 2019)



(Dutton and Reisdorf, 2019)

Since the 2017 review further useful research has been published on the importance of differentiated use when approaching digital inclusion work, especially in the context of the potential positive outcomes of digital inclusion. In particular, Van Deursen and Helsper note that 'economic uses, often the focus of digital inclusion policies and interventions, are narrowly related to mainly economic outcomes', whereas developing an individual's 'softer' digital communicative and creative skills development will have a wider impact in an increased number of fields (Van Deursen and Helsper, 2018).

The intergenerational divide in terms of digital practice, digital attitude and digital understanding as evidenced in Digital Savvy Citizens (White and Carnegie United Kingdom Trust, 2017), especially towards issues such as digital privacy and security, highlight the key

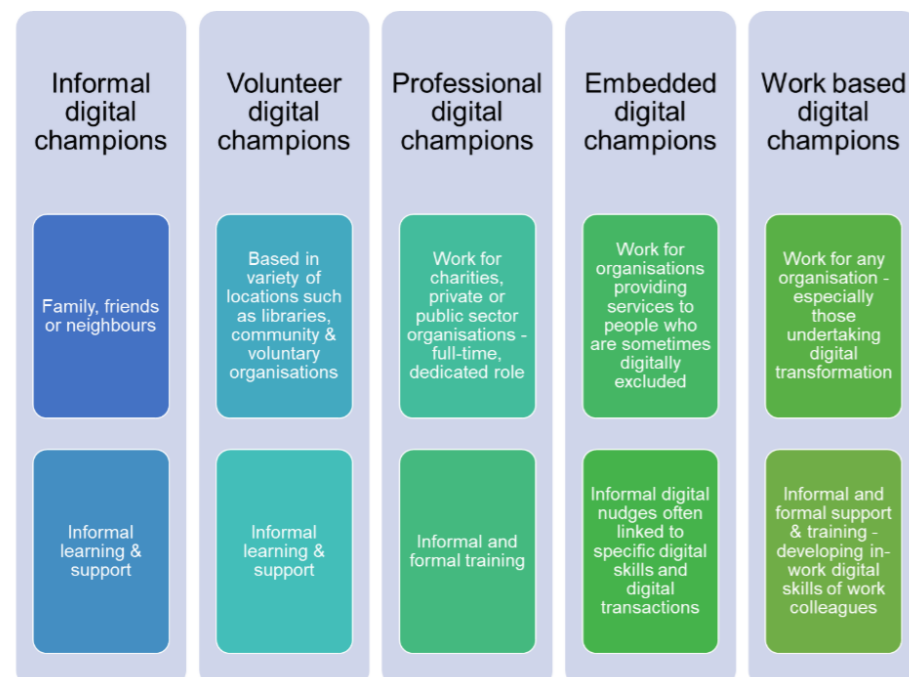
issue that different age groups have very different needs in terms of developing skills and knowledge. Quan-Haase et al also demonstrate that, in the case of their research cohort in East York, older adults in Toronto did not let their skill level determine how they engaged with the internet, evidencing an apparently nonlinear association between older adults' skill levels and online engagement (Quan-Haase et al., 2018b).

Each of these studies indicates is that access to the digital world provides an incomplete picture of the complexities of use by different demographic groups in different geographical settings. This is important because there can be no 'one size fits all' approach to ensure everyone benefits from accessing digital spaces to the same extent. Instead, recognition of complex and varied needs has to be built into design and decision-making processes if well safe and questioning use of the digital is to be achieved.

3.3 What interventions 'work' and which interventions look 'promising' in promoting digital inclusion?

The majority of projects highlighted in this review focus on digital champion support as a successful model of intervention. Digital champions are defined by Helsper as 'either volunteers who help the disconnected online and increase their skills, or national figureheads who raise awareness among industry and third sector stakeholders'. (Helsper, p141) (Andreasson, 2019). In practice in the UK, the digital champion approach has become more nuanced- One Digital, for example, outlines five different types of digital champion.

One Digital in the UK is a collaborative digital inclusion programme developed by Age UK, Citizens Online, Clarion Futures (part of Clarion Housing Group), Digital Unite and Scottish Council for Voluntary Organisations (SCVO) and is funded by the National Lottery Community Fund until 2020 to deliver digital skills training through a digital champion approach. The 2016 evaluation of One Digital highlighted some of the strengths of a



digital champion approach, and the project continues to offer insight and learning and in particular the benefits and opportunities of offering person centred support embedded in third sector organisations. Within the partnership, SCVO is undertaking a multi-faceted approach, with intervention at leadership, organisation and individual levels to address digital inclusion. The main findings from an evaluation of One Digital suggest that training and supporting digital champions within third sector organisations positively impacts on their ability to share digital skills with their key client groups. (McGillivray, Jenkins, Mamattah, 2016, One Digital, 2019).

Van Deursen and Helsper note that a 'semiologic, rather than an economic approach is more likely to be effective in addressing digital inclusion' (Van Deursen and Helsper, 2018) with the trainer 'providing mediation for the learner's appropriation and use of digital concepts'. This provides further evidence that the learner-centred approach highlighted in the first review is most likely to entice non-users into digital participation. Additionally, Dutton and Reisdorf note that practitioners and supporting organisations who are supporting digitally excluded people might embed the following approaches to facilitate greater engagement:

- demonstrate the relevance of the Internet to making one's life easier and more efficient;
- convey a more realistic understanding of the sociality required of the Internet and social media, which is not overly invasive as feared by the doubters;
- develop training that enables users to avoid some of the frustrations they experience in trying to get online and avoiding unwanted information; and
- understanding how personal information can be of value in meeting some needs, such as for shopping, but that it can be protected reasonably well through good information practices. (Dutton and Reisdorf, 2019)

Again, this research matches the finding of the first review, whilst taking into account a more nuanced approach to data privacy and security, a key concern of both users and non-users. This approach is further supported by Quan-Haase et al who find that peer-led learning can be effective, especially with 'Savvy Users' who can act as digital role models and mentors. Also they found that it is important to tailor training to support older adult needs with these savvy users being in the ideal position to challenge the negative connotations surrounding digital media use, emphasising to reluctant older adults that online activity can be gratifying and manageable for all ages rather than just a hobby or a form of entertainment (Quan-Haase et al., 2018a).

Interventions for a younger demographic were tested through the #NotWithoutMe programme, led by Carnegie Trust UK (Wilson et al., 2017) which challenged the assumption that all young people have the essential digital skills that they need for life and work, instead evidencing that vulnerable young people are particularly in need of additional support to develop their skills. Recommendations from this work indicated a number of

positive strategies for engaging with young people to support the development of essential digital skills, including a flexible, co-design model with a creative approach to methodology for programme delivery. As with other digital inclusion projects. #NotWithoutMe also established that ‘trusted intermediaries’ – organisations which already have a relationship with young people - are best placed to drive recruitment and engagement, and that embedding essential digital skills into existing programmes of skills development is also a positive approach. (Wilson et al., 2017).

A further positive approach comes from the private sector, with BT supporting 810 placements for disadvantaged young people not in employment, education or training to develop essential digital skills for the workplace with over 57% individuals securing these opportunities post-placement through the Work Ready programme. Again, digital skills are part of a wider programme of engagement and skills development.

From a campaigning and policy perspective, the 5 Rights project, (5Rights | The 5 Rights, 2019) an output of the 5 Rights Foundation and led in Scotland by Young Scot, establishes five key rights for young people in the digital space and calls for these rights to inform approaches of policy makers, educators and parent/carers:

1. The Right to Remove
2. The Right to Digital Literacy
3. The Right to Know
4. The Right to Safety and Support
5. The Right to Informed and Conscious Use

The Right to Digital Literacy calls for a commitment to digital literacy to be embedded across all areas of the curriculum by digitally skilled educators, and should inform both Scottish Government and Education Scotland. This positive intervention and support is also supported by the DQ Institute which is addressing the same issue at a global scale through #DQEveryChild – a global digital citizenship movement for children which focuses on developing eight digital citizenship tools including:

1. Digital citizen identity
2. Privacy management
3. Critical thinking
4. Digital footprints
5. Cyberbullying management
6. Screentime management
7. Cyber security management
8. Digital empathy

Other interesting approaches in Scotland include the Get Digital Programme, a three year funded multi agency programme lead by Streetwork which seeks to support the development of essential digital skills of people experiencing homelessness, as well as the

skills of the staff who support them, working across organisations engaged in addressing the causes of homelessness and helping those affected. This digital champion project will be of particular interest as it places the Essential Digital Skills Framework at the core, allowing for a longitudinal study, and is part of a participatory action research approach which will allow for greater qualitative learning.

3.4 What are the primary social and economic benefits associated with digital inclusion and how are these best realised?

The most recent Lloyds Consumer Index presents social and economic benefits in clear terms, emphasising that ‘compared to those with less digital capability, being Digital First creates both economic and social value

- 75% are saving money online including paying up to 6% less a year for utilities
- 84% connect with family and friends online
- They are 1.7 times more likely to have improved their job prospects
- 57% have improved their employability through being online
- They are nearly twice as likely to have disposable income, with an extra £800 to spend per year (those with lower incomes who are Digital First are also more likely to have more disposable income)
- 42% are managing their physical and mental health through being online’ (Lloyds Bank Consumer Digital Index 2019, 2019)

The economic and social benefits associated with meaningful digital participation are also highlighted in other reports. CEBR relates these benefits to eight key areas of positive impact on the individual (CEBR 2018):

- Earning capacity: earning capacity is increased by between 3%-10% for an individual in possession of essential digital skills.
- Employability: there are clear employability benefits in a society where almost 90% of jobs require essential digital skills (Lloyds Bank – UK Consumer Digital Index 2018, 2016): CEBR notes that there are increased employment opportunities for those in possession of essential digital skills with further chances to seek and secure employment.
- Transactional benefits: there are transactional benefits for the individual as well, with online shopping providing an approximate saving of 13% as compared to shopping in store.
- Social inclusion: the internet also has the capacity to support greater social inclusion, allowing for increased communication opportunities: those with essential digital skills are 14% more likely to contact family and friends.
- Time saving: Digital access and the ability to use digital skills impacts on individual’s time- an estimated 30 minutes per transaction can be saved by accessing government services and banking online rather than in person.

Good Things Foundation summarise the key disadvantages of digital exclusion as follows: poorer health outcomes and a lower life expectancy, increased loneliness, social isolation, and less access to jobs and education (The economic impact of Digital Inclusion in the UK A report for Good Things Foundation, 2018). The internet is also being used increasingly to interact with public services – although growth in this area has been variable – with 32% of UK citizens completing online forms for government services in 2014, dropping to 28% in 2016 and rising again to 42% by 2018 (Office for National Statistics, 2019).

For young people, the internet can offer a vital means of support – with more than a quarter of young people aged 12-15 reporting that they are more able to be themselves online rather than face to face. At a nation state level, the stakes are also high. It is estimated that digital exclusion at current rates will cost the United Kingdom a loss of around £22 billion (CEBR, 2018). But wider digital participation and developed digital services will allow for the supply of more efficient health services as patients are able to make the most of online NHS services such as NHS Near Me in Scotland, , greater digitisation of government transactions, and addressing recruitment issues related to the shortfall in digital skills, leading to greater productivity and increased output (CEBR, 2018).

Additionally, Van Deursen and Mossberger highlight the potential positive societal and economic impact of the Internet of Things (IoT) over a wide range of domains including energy, health, transport, and policing and public safety – but advise caution that these positive impacts will be hindered if individuals cannot engage with such systems. They also that policy makers should be cognisant of this particular issue to avoid increased entrenchment of the digital divide as the IoT may further disadvantage those who lack the essential skills to make use of the technology (van Deursen and Mossberger, 2018).

Discussions around loneliness have also been a focal point since the period of the last review. Wilson considers the potential positive impact of digital technology on the emotional wellbeing of older adults (Wilson, 2018), with research ‘suggesting a fine balance between technology use to improve self-esteem through connections with social networks and an over-dependence on technology that can actually reduce feelings of belonging’. Wilson notes that ‘There was qualitative evidence, however, that technology encouraged older adults to communicate with friends and relatives, especially through e-mails. This communication and how easy a device was to decipher had a positive impact on older adults’ perceptions of self-worth, which did correlate positively with frequency of use. Alternatively, if participants found technology difficult to use, this had a detrimental effect on self-esteem.’ (Wilson, 2018). Again, this evidences the importance of a multi-faceted approach to digital engagement, with cognisance of an individual’s circumstances.

Recent statistics also highlight the particular challenge of digital in the workplace, with sources drawing attention to the fact that not everyone in employment is in possession of all essential digital skills. Although there is a 15% increase in the number of people who use the internet regularly for work – the figure being 54% in 2019- more than half of UK employees (53%) do not have the Essential Digital Skills needed for work (e.g. able to avoid

suspicious links and pop-ups, share documents by attaching to an email, use online payments etc.) One-third of the workforce lacks cybersecurity skills. Furthermore, only one-third (34%) of employees say their workplace gives them digital skills support. (Lloyds Bank Consumer Digital Index 2019, 2019) There is clearly work to be done to engage a fully digital workforce.

4. CONCLUSIONS AND LEARNINGS

The key learnings of the last rapid review remain important in the current climate of digital exclusion – namely that third sector organisations should continue a multi-faceted approach to digital engagement, in a way that is consistent to the overall needs and motivations of individuals. This review highlights the varying ways projects have provided positive and varied approaches to digital inclusion, with no one-size-fits-all approach dominating.

Furthermore, the relationship between **digital and social capital** remains a consistent and important area of emerging study (Helsper and van Deursen, 2017; Van Deursen et al., 2017; Van Dijk, 2017; Ragnedda, 2018). Significant work is happening across Scotland where informal peer support models, more formal digital champion models and person-centred approaches are beginning to evidence change, and where spatial changes in usage are factored into project design- in other words, the physical spaces where individuals are more likely to access and use the internet should be given consideration. It is essential that, as these projects grow, that there is adequate reflection on their success or otherwise.

The long term understanding of the impact of digital inclusion work remains a challenge and greater longitudinal research is required. The funding landscape continues to impact on the third sector’s ability to build a coherent evidence base, with the continued prevalence of small, short-term research and evaluation projects. In addition to these learnings from 2017, this review also indicates the following learnings which SCVO and partners can take cognisance of when considering how to further efforts in the field of digital inclusion:

Essential digital skills frameworks will help us understand digital inclusion interventions

As discussed above, there are a number of positive approaches in creating frameworks around Essential Digital Skills which allow for a more nuanced understanding of positive interventions and individual progress and ‘collateral benefits’ as individual skills cross pollinate other domains. As these new frameworks are embedded in digital inclusion work, it will be interesting to assess the data produced as a result. The commonality also allows public and third sector to work collectively to address digital exclusion.

Developing digital understanding continues to be a key priority

While essential digital skills are vital, these require a nuanced approach which also develops an individual’s digital understanding to allow them to engage meaningfully in the digital world. In this context, key issues such as privacy and security which are primary concerns

for those offline need to be addressed in training and support at all levels. Furthermore, and individual's economic and social background has a clear impact on the opportunity to develop digital understanding- regardless of age.

Individuals with a disability continue to be affected disproportionately by digital exclusion

Further research is needed to understand the discrepancies in outcome for disabled people within Scotland, and there is evidence that significant support is required to support individuals with disabilities and their carers understand and manage risk online, whilst making clear the benefits and possibilities. In particular, 'There is a need for future work to support identification of protective factors so as to prevent the online world being one more space in which people intellectual disabilities are excluded.' (Chadwick, Quinn and Fullwood, 2017, p45)

Those providing support often need (digital) support themselves

Teachers, support workers, carers and parents need digital upskilling and support as individuals to increase equality of opportunity for those for whom they have responsibility. This will then impact on individual empowerment and digital engagement.

Being in work doesn't mean you have the essential digital skills you need for work.

Despite the fact that an incredibly high percentage of jobs require essential digital skills -90% (Lloyds Bank – UK Consumer Digital Index 2018, 2018)- the evidence outlined above highlights a significant percentage of people do not have the digital skills they need for work. Employers need to be cognisant of this skills gap, and build in training and support accordingly. The workplace digital champion may be able to offer nuanced peer support at point of need- and with an understanding of the required skills- to help individuals progress meaningfully with digital in the workplace.

Capturing the success of positive intervention remains a tough nut to crack

Many of the projects considered in this paper are short term interventions, often as a result of funding context, which lack a longitudinal approach to evidencing impact, or lack the application of a common framework to allow for shared learning across projects. Hopefully further research will support how the sector might best evidence success.

REFERENCES

- 5Rights | The 5 Rights (no date). Available at: <https://5rightsfoundation.com/the-5-rights/> (Accessed: 13 October 2019).
- Access and Inclusion in 2018 (no date). Available at: https://www.ofcom.org.uk/__data/assets/pdf_file/0018/132912/Access-and-Inclusion-report-2018.pdf (Accessed: 16 January 2019).
- Andreasson, K. (2019) *Digital Divides : The New Challenges and Opportunities of e-Inclusion*, Routledge. Available at: https://books.google.co.uk/books?hl=en&lr=&id=9Z4XBgAAQBA-J&oi=fnd&pg=PP1&dq=digital+divides+new+challenges&ots=J7iYT8O2VF&sig=YDHhbVaOg-wlTqDcqQTni1rycVZU&redir_esc=y#v=onepage&q=digital+divides+new+challenges&f=false (Accessed: 13 October 2019).
- Bauer, J. M. (2018) 'The Internet and income inequality: Socio-economic challenges in a hyper-connected society', *Telecommunications Policy*, 42(4). doi: 10.1016/j.telpol.2017.05.009.
- Bowyer, G. (no date) *Switched On Exploring the challenge of adequate digital access for all children and young people*. Available at: https://d1ssu070pg2v9i.cloudfront.net/pex/carnegie_uk_trust/2019/02/21143338/LOW-RES-3999-CUKT-Switched-On-Report-ONLINE.pdf (Accessed: 26 March 2019).
- Chadwick, D. D., Quinn, S. and Fullwood, C. (2017) 'Perceptions of the risks and benefits of Internet access and use by people with intellectual disabilities', *British Journal of Learning Disabilities*. doi: 10.1111/bld.12170.
- Chiner, E., Gómez-Puerta, M. and Cardona-Moltó, M. C. (2017) 'Internet and people with intellectual disability: an approach to caregivers' concerns, prevention strategies and training needs', *Journal of New Approaches in Educational Research*. doi: 10.7821/naer.2017.7.243.
- Van Deursen, A. J. A. M. et al. (2017) 'The compoundness and sequentiality of digital inequality', *International Journal of Communication*, 11. doi: 10.1108/S2050-206020150000010002.
- Van Deursen, A. J. A. M. and Helsper, E. J. (2018) 'Collateral benefits of Internet use: Explaining the diverse outcomes of engaging with the Internet', *New Media and Society*, 20(7). doi: 10.1177/1461444817715282.
- van Deursen, A. J. A. M. and Mossberger, K. (2018) 'Any Thing for Anyone? A New Digital Divide in Internet-of-Things Skills', *Policy and Internet*, 10(2). doi: 10.1002/poi3.171.
- Van Dijk, J. A. G. M. (2017) 'Digital Divide: Impact of Access'. doi: 10.1002/9781118783764.wbieme0043.
- Dodel, M. and Mesch, G. (2018) 'Inequality in digital skills and the adoption of online safety behaviors', *Information, Communication & Society*. Routledge, 21(5), pp. 712–728. doi: 10.1080/1369118X.2018.1428652.
- DQ Global Standards Report 2019 Digital Intelligence (2019). Available at: <https://www.dqinstitute.org/dq-framework> (Accessed: 26 March 2019).
- Dutton, W. H. and Reisdorf, B. C. (2019) 'Cultural divides and digital inequalities: attitudes shaping Internet and social media divides*', *Information Communication and Society*, 22(1). doi: 10.1080/1369118X.2017.1353640.
- Essential Digital Skills Framework (2018). Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/738922/Essential_digital_skills_framework.pdf (Accessed: 12 May 2019).

Essential digital skills framework - GOV.UK (2018). Available at: <https://www.gov.uk/government/publications/essential-digital-skills-framework/essential-digital-skills-framework> (Accessed: 24 March 2019).

Harris, C., Straker, L. and Pollock, C. (2017) 'A socioeconomic related "digital divide" exists in how, not if, young people use computers', *PLoS ONE*, 12(3). doi: 10.1371/journal.pone.0175011.

Helsper, E. J. and van Deursen, A. J. A. M. (2017) 'Do the rich get digitally richer? Quantity and quality of support for digital engagement', *Information Communication and Society*, 20(5). doi: 10.1080/1369118X.2016.1203454.

Khangura, S. et al. (2014) 'RAPID REVIEW: AN EMERGING APPROACH TO EVIDENCE SYNTHESIS IN HEALTH TECHNOLOGY ASSESSMENT', *International Journal of Technology Assessment in Health Care*, 30(1), pp. 20–27. doi: 10.1017/S0266462313000664.

Lloyds Bank – UK Consumer Digital Index 2018 (2016). Available at: <https://www.lloydsbank.com/banking-with-us/whats-happening/consumer-digital-index.asp> (Accessed: 24 February 2019).

Lloyds Bank Consumer Digital Index 2019 (2019). Available at: https://www.lloydsbank.com/assets/media/pdfs/banking_with_us/whats-happening/LB-Consumer-Digital-Index-2019-Report.pdf (Accessed: 2 September 2019).

Mcgillivray, D., Jenkins, N. and Mamattah, S. (2017) **RAPID REVIEW OF EVIDENCE FOR BASIC DIGITAL SKILLS**. Available at: https://storage.googleapis.com/digitalparticipation/reports/Tackling_Digital_Exclusion_Literature_Review.pdf (Accessed: 25 April 2019).

Mihelj, S., Leguina, A. and Downey, J. (2019) 'Culture is digital: Cultural participation, diversity and the digital divide', *New Media & Society*, p. 146144481882281. doi: 10.1177/1461444818822816.

Office for National Statistics (2019) **Exploring the UK's digital divide - Office for National Statistics**. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/articles/exploringtheuksdigitaldivide/2019-03-04> (Accessed: 4 March 2019).

People, Power and Technology: The 2018 Digital Attitudes Report (no date). Available at: <https://attitudes.doteveryone.org.uk/> (Accessed: 26 March 2019).

Philip, L. et al. (2017) 'The digital divide: Patterns, policy and scenarios for connecting the "final few" in rural communities across Great Britain', *Journal of Rural Studies*. Pergamon, 54, pp. 386–398. doi: 10.1016/J.JRURSTUD.2016.12.002.

Quan-Haase, A. et al. (2018a) 'Dividing the Grey Divide: Deconstructing Myths About Older Adults' Online Activities, Skills, and Attitudes', *American Behavioral Scientist*, 62(9), pp. 1207–1228. doi: 10.1177/0002764218777572.

Quan-Haase, A. et al. (2018b) '<https://www.facebook.com/>', *American Behavioral Scientist*, 62(9). doi: 10.1177/0002764218777572.

Ragnedda, M. (2018) 'Conceptualizing Digital Capital', *Telematics and Informatics*, (8), p. 35. doi: 10.1016/j.tele.2018.10.006.

Robinson, L. (2018) 'The identity curation game: digital inequality, identity work, and emotion management', *Information, Communication & Society*. Routledge, 21(5), pp. 661–680. doi: 10.1080/1369118X.2017.1411521.

Scheerder, A. J., van Deursen, A. J. and van Dijk, J. A. (2019) 'Internet use in the home: Digital inequality from a domestication perspective', *New Media & Society*. SAGE PublicationsSage UK: London, England, p. 146144481984429. doi: 10.1177/1461444819844299.

Scholz, F., Yalcin, B. and Priestley, M. (2017) 'Internet access for disabled people: Understanding socio-relational factors in Europe', *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 11(1), p. 4. doi: 10.5817/CP2017-1-4.

SCVO Essential Digital Skills Toolkit digitalparticipation.scot (no date). Available at: <https://storage.googleapis.com/scvo-cms/wp-content/uploads/2018/10/SCV-05-Report-A4-Portrait-V5.pdf> (Accessed: 12 May 2019).

The economic impact of Digital Inclusion in the UK A report for Good Things Foundation (2018). Available at: https://www.goodthingsfoundation.org/sites/default/files/research-publications/the_economic_impact_of_digital_inclusion_in_the_uk_final_submission_stc_0.pdf (Accessed: 26 March 2019).

White, D. (2016) **Digital Participation and Social Justice in Scotland**. Available at: https://d1ssu070pg2v9i.cloudfront.net/pex/carnegie_uk_trust/2016/09/v3-2697-CUKT-Digital-Participation-summary.pdf (Accessed: 27 January 2019).

White, D. and Carnegie United Kingdom Trust (no date) **Digitally savvy citizens**. Available at: <https://www.carnegieuktrust.org.uk/publications/digital-savvy-citizens/> (Accessed: 27 March 2019).

Wilson, C. (2018) 'Is it love or loneliness? Exploring the impact of everyday digital technology use on the wellbeing of older adults', *Ageing and Society*, 38(7). doi: 10.1017/S0144686X16001537.

Wilson, G. et al. (no date) **A digital world for all? Findings from a programme of digital inclusion for vulnerable young people across the UK**. Available at: https://d1ssu070pg2v9i.cloudfront.net/pex/carnegie_uk_trust/2017/10/NotWithoutMe-2.pdf (Accessed: 27 March 2019).



