Digital Resilience,
Digital Partnership
A Baseline of digital inclusion in Northern Ireland

Author: Citizens Online

Date: 5th September 2017

Final version

Acknowledgements:

We would like to thank all the organisations, departments, teams and individuals who facilitated, took part in and contributed to the Baseline Evaluation process.

Contents

BASELINE EVIDENCE RESEARCH

Introduction

Northern Ireland is at a crossroads - while the digital economy and rollout of superfast broadband capability are speeding forward, the risk of the digital divide widening is apparent and evidenced through these research findings. Wherever there is social inequality we find digital inequality and vice versa, and whether these inequalities also include financial capability, economic inactivity or health issues; digital access and skills are a key part of the solution.

"Digital Partnership, Digital Skills" intends to provide the most comprehensive analysis of digital inclusion issues that Northern Ireland has had available to date. This specific research was carried out by Citizens Online, a national charity set up to tackle the issues of digital exclusion, and is the 'evidence base' which collates the findings from data sources and stakeholders. The research was commissioned by the Department of Finance Digital Inclusion Unit, in partnership with BT. This will provide the supporting evidence to assist with developing a coordinated, resourced and comprehensive Digital Resilience approach to supporting digital inclusion in Northern Ireland.

In order to deliver an effective and efficient programme of activity that reaches people at risk of exclusion it is necessary to know where they are and what they need. It is also necessary to know what activities are already happening in the area, where 'assets' such as libraries and community centres are and to understand the relevant activity undertaken by partners and any existing relationships between them. The baseline process is a way of gathering this information so that the local partnership can make evidence-based decisions regarding how they can best use available resources to get desired outcomes.

Research Purpose

The research details the digital inclusion landscape, or ecosystem within Northern Ireland (NI). We use the terms 'landscape' and 'ecosystem' interchangeably. We recognise that issues surrounding digital inclusion are wide-ranging, interrelated, complex and in a continual state of flux; affected by both internal organisational factors, external policy drivers and changes in citizen behaviour. The term landscape suggests both immediately visible and more distant horizon focal points. Ecosystem suggests a complex and interconnected community that is affected and affects its environment.

The research provides an evidence base on which to make recommendations to take forward a number of potential "Pathfinder" projects, around which collaboration, cohesion and partnerships can develop. We detail the current data, issues, risks, and opportunities. From this it is possible for stakeholders to build business cases to support initiatives or service transformation. At the time of writing, the Digital Transformation Service within the Department of Finance is currently finalising a Strategy for Digital Transformation of Public Services, which will be published in autumn 2017. Digital Inclusion is a key theme of the Strategy and this research will help to inform future delivery plans to provide assistance for people who are not online.

It provides the reader with a useful and insightful snapshot of digital inclusion in Northern Ireland in 2017. We hope that in future years, colleagues can refer back to this research and identify their progress and achievements in tackling digital exclusion and the related issues of social exclusion and isolation, economic inequality, financial capability, employability, health and wellbeing, skills and literacy. Progress has been made in these areas over the last few years, but the pace of change and the increase in citizens' expectations means that the likelihood of vulnerable people being excluded is going to rise unless coordinated action is taken.

Methodology

Approach

Citizens Online approached the Northern Ireland Digital Inclusion baseline using the following methodology (more detail is given in Appendix 1):

1. **Identify Outcomes:**
    1. Improved understanding of digital exclusion risks across Northern Ireland.
    2. Improved understanding of digital inclusion improvement opportunities in resourcing, transformation and change across Northern Ireland.
    3. Informed stakeholders equipped with information to support digital inclusion business cases.
2. **Identify Outputs:**
    1. Research, analysis and evaluation activity
    2. Data and statistics relevant to digital inclusion in Northern Ireland
    3. Engagement events for stakeholders
    4. Baseline Evaluation Report
3. **Identify Work-streams:**
    1. Project Management and Reporting
    2. Workshops
    3. Demographic and geographic data
    4. Staff and organisational survey data (including access and coaching assets)
    5. Digital Maturity Assessments (DMAs)
    6. Strategy, policy and action planning review

Workstream Methodologies

The Baseline Evaluation was split into several work streams. All were intended to either produce new insight from fresh data regarding digital inclusion or to collate existing data into a single place, so that it could be reviewed afresh, potentially with new insights being identified in the process.

- Baseline 1 deals with findings from open data, research and analysis that Citizens Online have undertaken. It contains statistical findings, maps and target demographic populations. This section could also be understood as 'what we found'.
- Baseline 2 deals with findings from surveys undertaken with partner organisations and staff in Northern Ireland. It contains statistical findings and qualitative feedback. This section could also be understood as 'what you told us'.

Baseline 1: Data Mapping

- Intended to provide the 'foundation layer' of baseline data, offering insights into who is at risk of digital exclusion in Northern Ireland.
- Used largely open data sources and reports available online or on request from key organisations and additional proprietary data mapping from Experian Mosaic.
- Research helped to produce maps of Northern Ireland of geographies and demographics where digital exclusion was most likely..
- Triangulation of key data sources enabled us to form future recommendations and the Pathfinder projects.

Baseline 2: Surveying the Ecosystem

Online surveys were circulated as widely as possible across Northern Ireland, using the Digital Assist Steering Group as the main communication channel. It was also promoted via NICVA's (Northern Ireland Council for Voluntary Action) circulation list and through Twitter using relevant hashtags.

The surveys were of three types:

1. **Staff Survey** -aimed at customer facing personnel and intending to measure the skills and confidence of staff and volunteers to be able to help others with basic digital skills; acting as Digital Champions.
2. **Organisational Survey** - aimed at any organisation that was involved in delivering digital inclusion activity, or a stakeholder in digital inclusion. Intended to be a relatively simple 'gateway' assessment of an organisation's connection with the digital inclusion agenda.
3. **Digital Maturity Assessment** - a comprehensive 'deep dive' questionnaire, aimed at some of the key organisations influencing or delivering digital inclusion outcomes. The survey was conducted via a telephone conference call, sometimes with multiple staff representing the organisations providing feedback.

Supplementary Activity

Engagement Activity

The format of this work-stream was varied. The intention was to generate qualitative data and feedback directly from those parties active or interested in digital inclusion. Meeting attendances, conference calls, phone interviews, phone calls, emails and workshops were all part of evidence gathering. This activity integrated with other work-streams and became an iterative process of testing ideas, learning, reflecting, sharing information and ultimately supporting our findings and recommendations.

Project Management and reporting

Our intention was to maintain open communications with NI Direct throughout the project. Regular progress updates were provided through Project Management. BT provided a lead Project Manager contact for our client (NI Direct) and Citizens Online also provided a lead Project Manager. Project update reporting occurred through the following means:

- Use of Trello (online collaboration tool)
- Use of Google Docs (online collaboration tool)
- Regular project update phone calls between BT, Northern Ireland Executive (NIE) and Citizens Online

From Findings to Recommendations:

Our synthesis process involved:

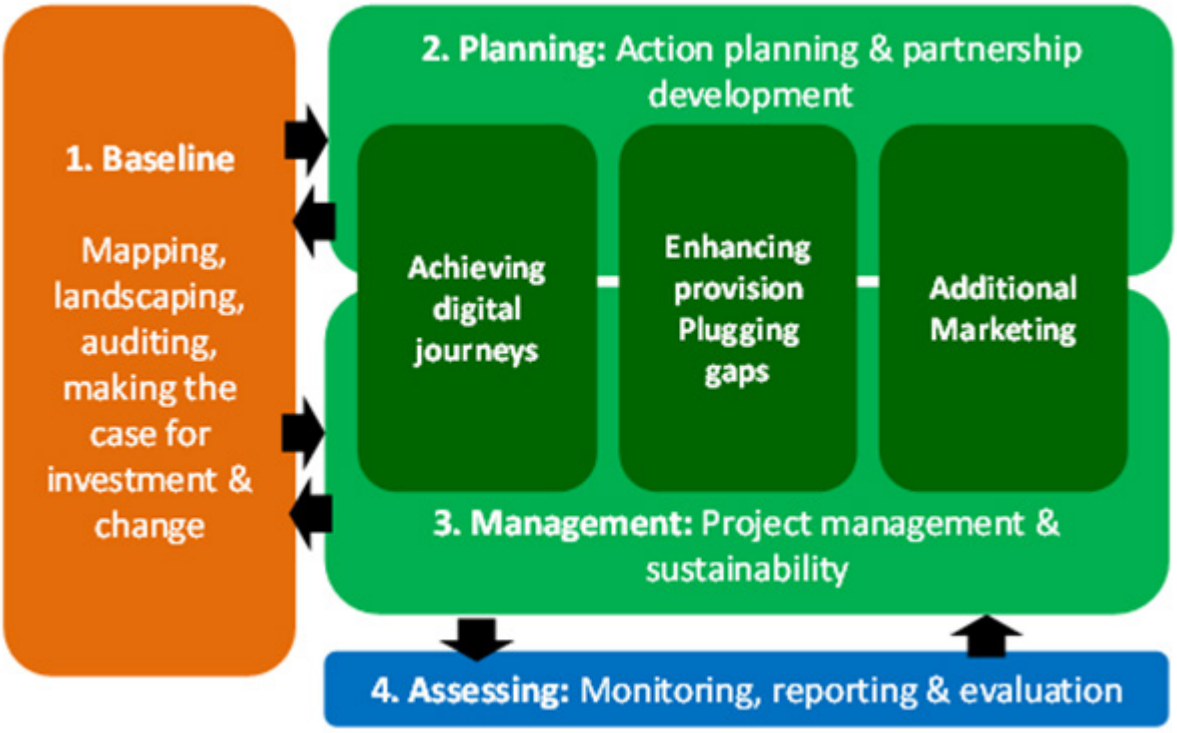
1. Research
2. Analysing data
3. Producing findings
4. Triangulating key data sources to suggest priority action areas
5. Collating reports
6. Providing some emerging themes and recommendations designed to facilitate discussion on the key priorities which may be taken forward by the Digital Assist Steering Group, Government departments or a wide range of organisations across the sectors in NI.

DIGITAL RESILIENCE AND BUILDING THE BUSINESS CASE

The Digital Resilience Model

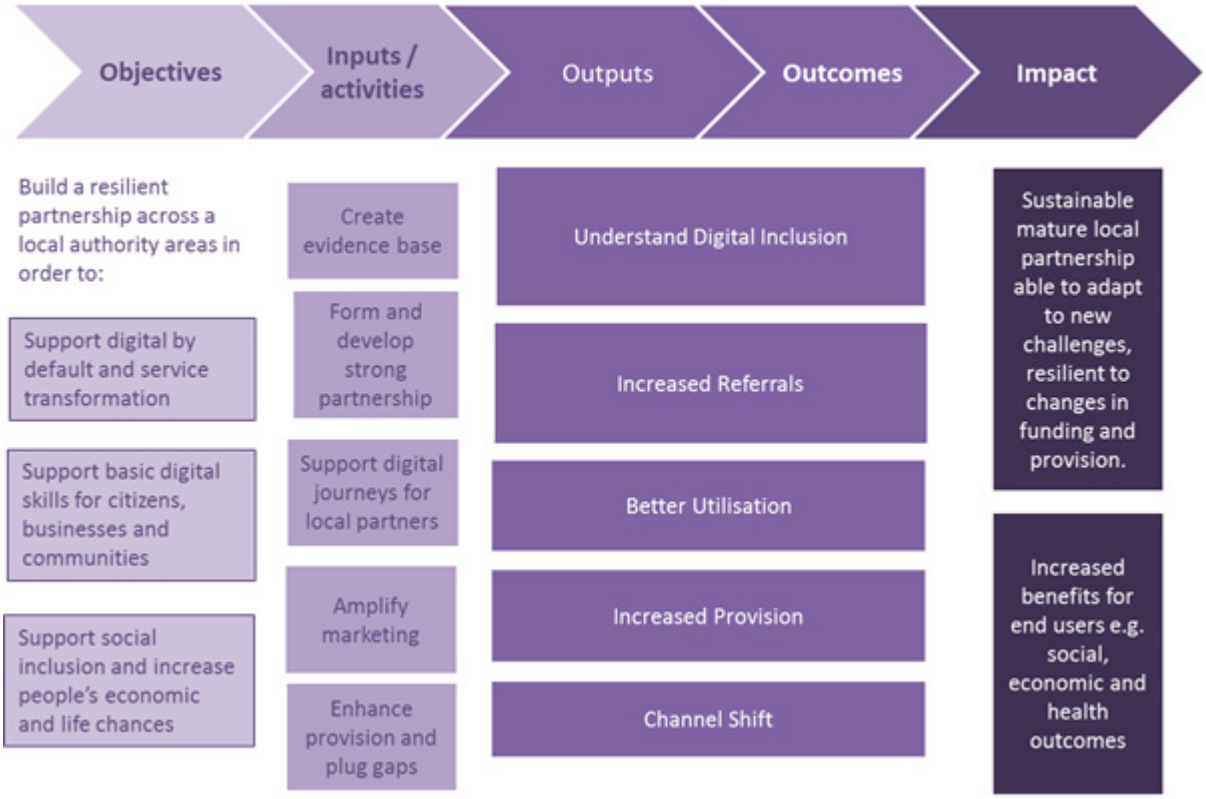
Citizens Online's whole system approach to tackling Digital Inclusion is called Digital Resilience. This is an award winning methodology which seeks to identify key digital exclusion risks in an area and use an evidence based approach, to target resources and create an action plan for local stakeholders to deliver. Figure 1 shows the different elements of the model and how they relate to each other:

Figure 1: Citizens Online's Digital Resilience model



We estimate a comprehensive Digital Resilience programme of change requires around three years of activity to ensure that different ways of working can be fully embedded into a locality. We have also created a Theory of Change for Digital Resilience, which supports this thinking, shown in figure 2:

Figure 2: Theory of Change for Digital Resilience



The focus of our work in Northern Ireland was to create the evidence base to support NI Direct and all digital inclusion stakeholder organisations, to come to an improved understanding of the issues and opportunities, for government services, third sector organisations, private sector businesses - and most of all the citizens of Northern Ireland.

Supporting the Business Case for Digital Inclusion

Appendix 2 sets out a number of Headline figures which can be used to support the case for digital inclusion activity. We have summarised the main points below. They may individually or collectively be useful to support business planning or the creation of business cases for digital inclusion activity. They include outputs from previous projects which take a partnership approach and use Digital Champions (employees or volunteers trained to provide assistance with basic digital skills), as a central method for digital inclusion delivery. Some are provided from third party sources.

Key Points

- 32.2% of the Northern Ireland population aged 16-65 have low or no digital skills. That's over 378,000 people...
- The cost on an online transaction could be in the region of 5% of the cost of a face to face one. Estimated average channel costs are set out in Table 1 below:

Table 1: Costs of contact through different channels

Source	Face to Face	Telephone	Post	IVR[1]	Online
PWC[2]	£10.53p	£3.39p	£12.10p	NA	£0.08p
SOCITM[3]	£14.00p	£5.00	NA	£0.20p	£0.37p

- To meet the rising job demands almost 90% of new jobs will require digital skills with 72% of employers unwilling to interview candidates without basic computing skills.
- To meet this estimate UK will need 7,45,000 additional workers with digital skills failing which these jobs may be outsourced or given to foreign workers.
- This digital skills gap is costing the UK economy an estimated £63 billion a year in lost additional GDP.'[4]
- A return of £3.70 for every £1 invested in digital inclusion activity
- People could save an average of £1,064 per year by getting online
- 26% of beginners do not use their new digital skills without ongoing support
- Those online (70 per cent of them) encourage offline family and friends to use the internet too.
- 60 per cent of those who received training went on to access at least one government service online 12 months after training.
- An active cohort of professional, volunteer and embedded Digital Champions can each expect to provide an average of 16 digital skills support sessions each per week, making every contact count when it comes to digital skills support
- 38% of Small Businesses and 49% of Charities lack basic digital skills.
- 66% of Small Businesses and 78% of Sole Traders do not invest any money in digital skills
- 'About half of all UK farms use some form of diversified activity in their farming business and these bring an average of £10,400 extra revenue per farm'[5]
- The cost of missed appointments is about £108 per appointment and digital health can support patient motivation in personal health responsibility

1. Interactive Voice Response (IVR).
2. The Economic Case for Digital Inclusion, Price Waterhouse Coopers, Oct 2009.
3. Local Government Information Unit, going where the eyeballs are, connecting councils with their communities.
4. Digital Skills Crisis: House of Commons by the Science and Technology Committee. June 2016.
5. DEFRA guidance on farm diversification, January 2014.

Table 2: Potential benefits of digital technology in healthcare delivery

Type of benefit	Examples
Cost savings	• Reduction in missed appointments • Avoidance of intensive support for patients not receiving early diagnosis • Reduction of prescriptions • Elimination of paper/stationery costs
Productivity	• Quality of care and patient safety optimised treatment • Clinician confidence (via decision support) • Patient confidence and assurance • Carer confidence and assurance
Qualitative benefits	• Improved patient experience • Improved reputation of the organisation and patient confidence in the services provided • Improved communication between health organisations

DATA MAPPING: BASELINE 1 FINDINGS

Introduction

This section describes in more detail the 'baseline' data upon which Citizens Online's analysis of the people at risk of digital exclusion within Northern Ireland is based. It aims to provide insights as to why these people are at risk of exclusion, where they are most likely to be concentrated, and what the key barriers to digital inclusion are. It will hint at how these barriers might be overcome. We hope that the data contained in this part of the report can lay the foundations for a successful engagement strategy to help digitally excluded people gain basic digital skills, get online and realise benefits, as well impacting positively on local service providers and other stakeholders.

Citizens Online's analysis here draws on publicly available 'open source' data together with data provided by partners during the course of the research, and proprietary data from the Experian Mosaic demographic profiling and segmentation tool.

In considering digital inclusion it is important to understand the characteristics of the people who live within an area. This includes how many are likely to be at risk of digital exclusion, which groups among those at risk of exclusion are most significant and how their behaviour might be influenced. This analysis also gives an indication of which public services these groups are most likely to use and through this which organisations will be natural partners in achieving inclusion.

Digital Inclusion: headline statistics and sources

32.2% of the Northern Ireland population aged 16-65 have low or no digital skills – over 378,000 people. At the level of providing basic digital skills to people without them, organising digital inclusion projects has a huge potential for scale and impact. Even if we consider that not everyone will be willing or able to improve their digital skills, the numbers remain significant – especially if we consider the social and financial benefits to each person and to communities as a whole, which can be achieved.

Internet access and use

In 2014 the total population of Northern Ireland was estimated at 1,840,498 (NINIS) – equivalent to 2.85% of the UK population. As of April 2017 NISRA reported the population estimate as 1,870,875 - an estimated increase in population of approximately 30,000 over three years (calculations that follow tend to be based on the 2014 estimate unless otherwise stated, but the increase would not substantially affect them).

The total number of households is approximately 703,275 (2011 Census). Population density averages just over one person per hectare (approximately 1,356,200 hectares), but this population is unevenly distributed, both in terms of geography and age.

A variety of sources provide estimates relevant to the question of identifying the number or proportion of people likely to be digitally excluded in Northern Ireland. The Northern Ireland Continuous Household and Omnibus Surveys provide estimates for the proportion of individuals or households with regard to access to digital devices and services (computers, the internet, broadband (and/or superfast), and to digital behaviour.

A doteveryone / Ipsos MORI survey produced estimates of those lacking basic digital skills based on self-assessment for different regions of the UK including Northern Ireland, while the OECD Adult Skills Survey provides estimates of digital skill level based on computer usage tests - including a sample from Northern Ireland. Finally, the Lloyds UK Business Digital Index and Consumer Digital Index also include estimates specifically for Northern Ireland.

The Northern Ireland Continuous Household Survey provides data about home access to the internet and broadband since 2005/6 (n=2,495 in 2015/16, between 2,473 and 2,780 for other years). The percentage without access has declined considerably – from over 50 per cent on both questions to under 25 per cent (Figure 3). Nonetheless, accounting for margin of error this equates to an estimate of between 127,000 and 154,000 households without internet at home (20% - 18-22% at 95% Confidence), and between 147,000 and 175,000 households without broadband access (23% - 20-25%).

Furthermore, the rate of decline has been lower in recent years – averaging 5%/yr for internet access in the first half of the decade but just 2%/yr over the past 5 years (Figure 4). This suggests that the 'low hanging fruit' has largely been reached, with those who remain offline likely to be more socially excluded and/or resistant to new technology.

Figure 3: Percentage of Households without Internet/Broadband Access at home (2005/6 - 2015/16, Continuous Household Survey)

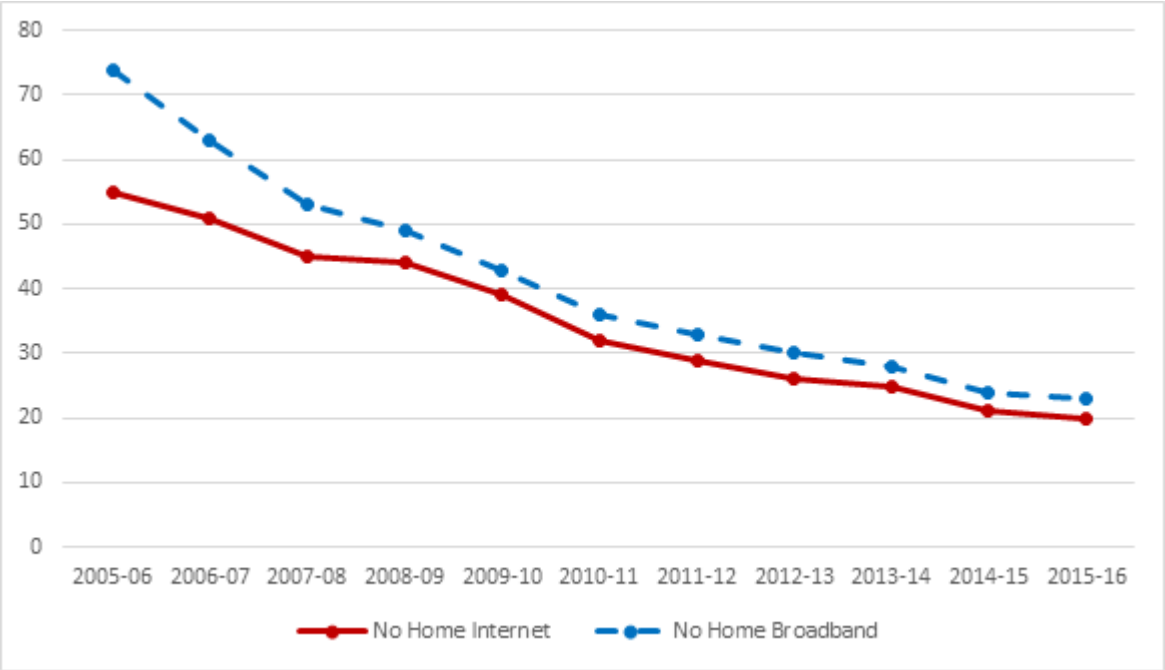
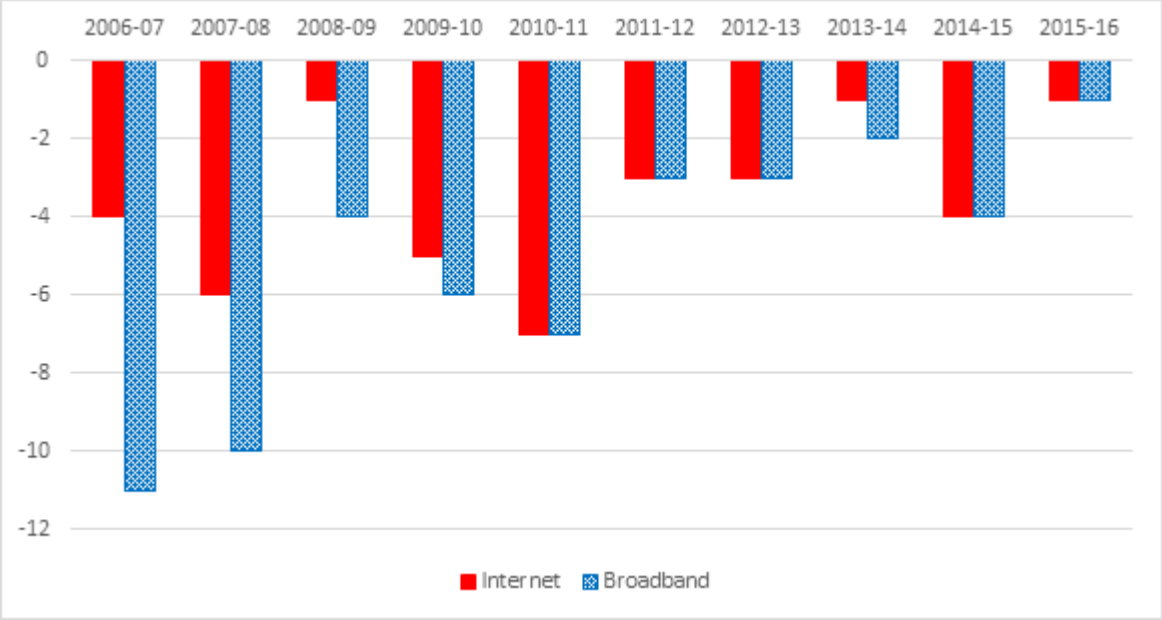


Figure 4: Percentage decline in households without access at home on previous year (2006/6 – 2015/16, Continuous Household Survey)



These results are complemented by those in the Delivery and Innovation Module of the annual Omnibus Survey, which finds 19% of the Northern Ireland population does not make use of the internet (Figure 5). The Omnibus survey provides a breakdown which makes clear the relationship between age and increased risk of digital exclusion, with 100% of 16-24 year olds estimated to make use of the internet compared to under half – 47% - of over 65s. In addition, the Omnibus Survey results show that people with disabilities are more likely to be non-users of the internet – with 40% of those with disabilities replying "No" to the question "Do you make use of the internet?" compared to just 15% of those without a disability (Figure 6). All percentages in Omnibus survey results are weighted to make sample responses representative of the population.

Figure 5: Do you make use of the internet? Percentage by age Band (Omnibus Survey, April 2016)

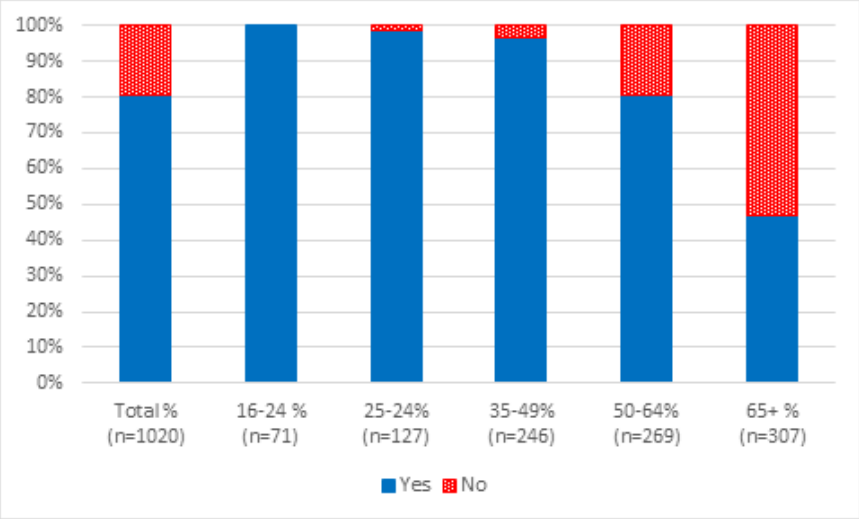
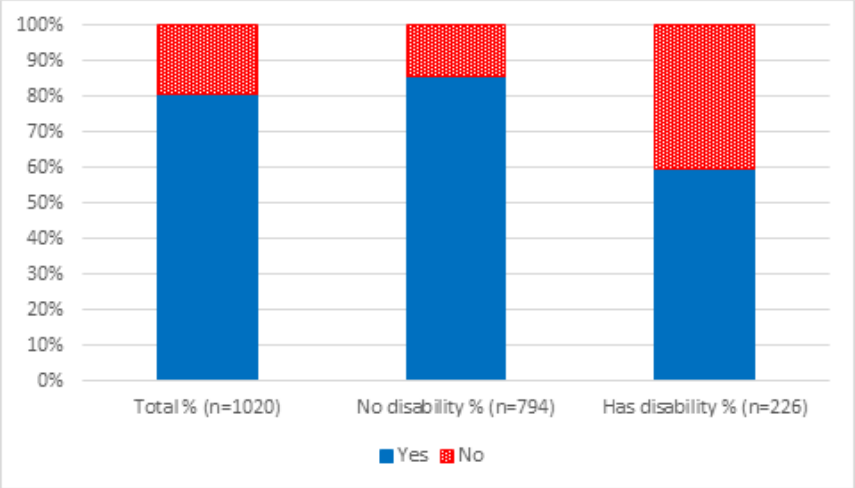


Figure 6: Do you make use of the internet? Percentage by Disability status (Omnibus Survey, April 2016)



Breakdown of the Omnibus Survey responses also provides some indication of the geographic distribution of those who are not making use of the internet, by NUTS3 area. Though variation on this metric is less pronounced, use of the internet appears to substantially lower in the 'West and South of NI' area (74%, 26% don't make use of the internet) and highest in 'Outer Belfast' (85%) on Omnibus Survey data (Figure 7, Figure 8).

Figure 7: Chart – Percentage not making use of the internet, by NUTS3 area (Omnibus Survey, April 2016)

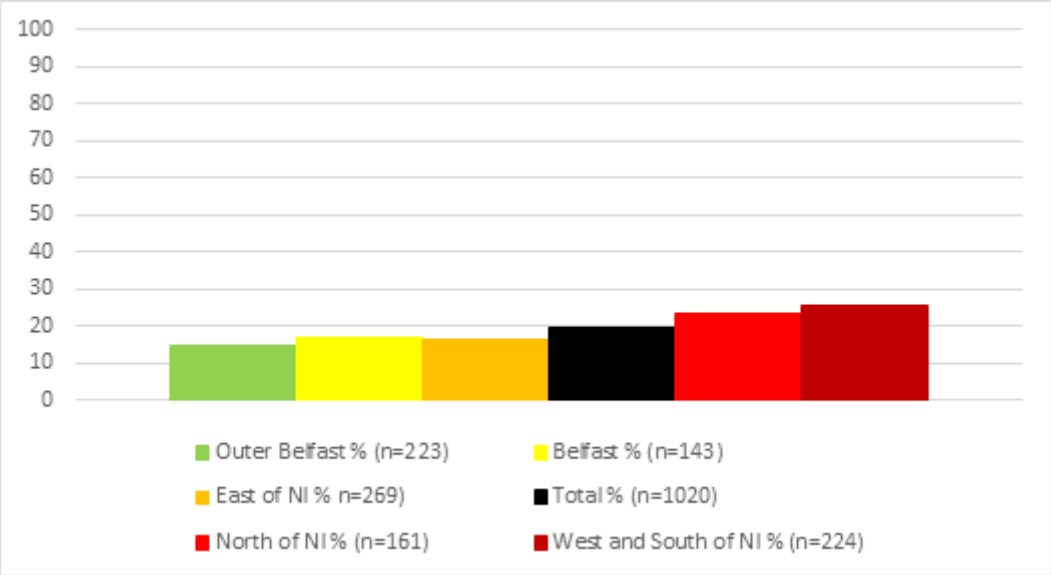
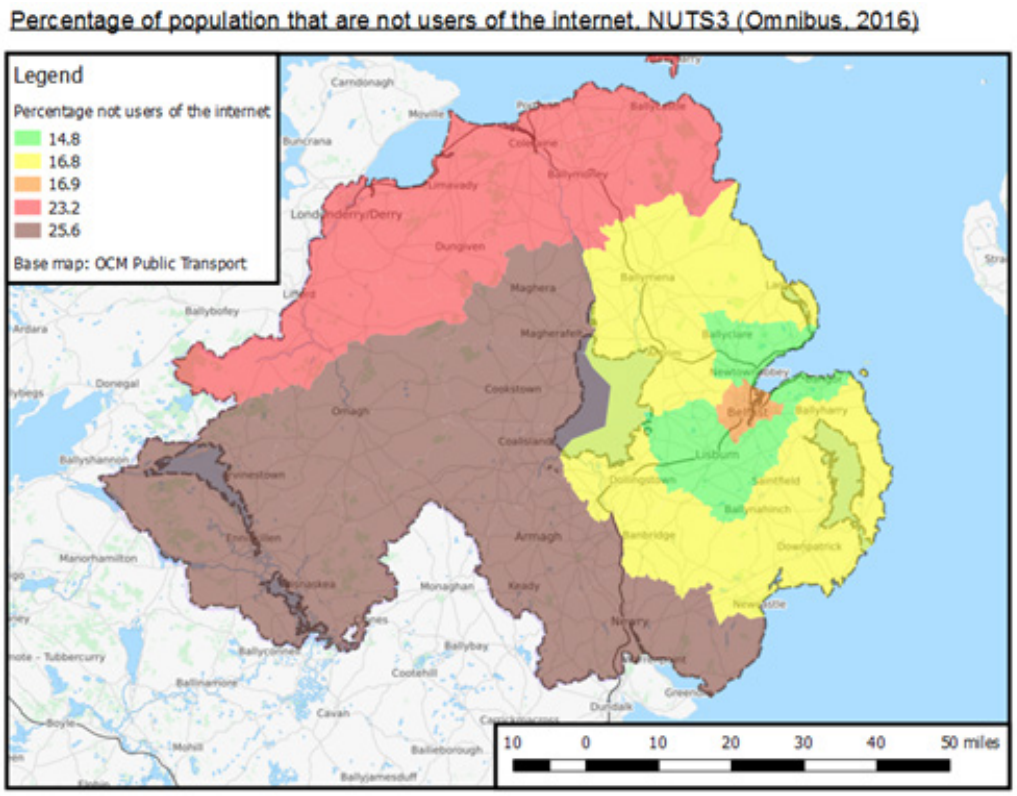
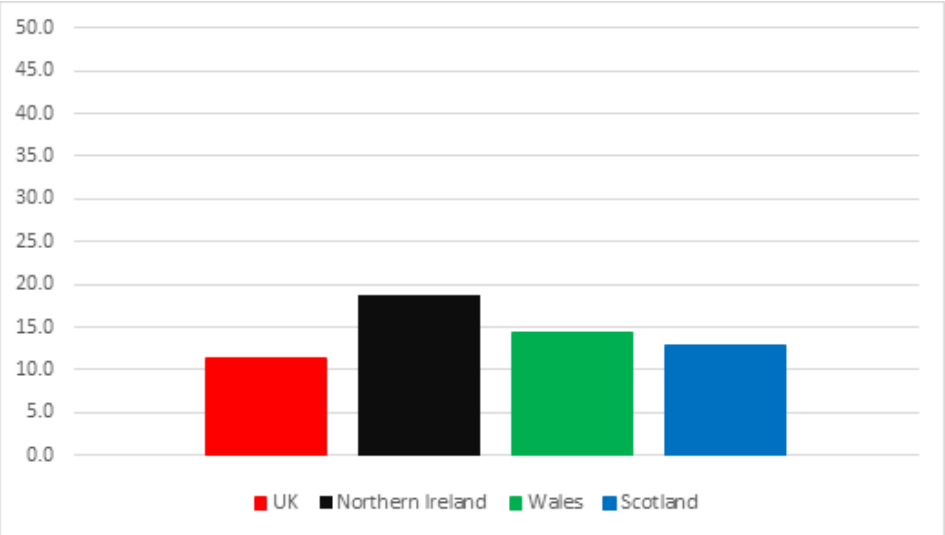


Figure 8: Map – Do you make use of the internet? Percentage by NUTS3 area (Omnibus Survey, April 2016



Geographic variation at NUTS levels is also available via the Office for National Statistics (ONS) data on "Internet Users in the UK", which form part of their Labour Force Survey. The 2016 release of this data stated that "Northern Ireland had seen the largest increase (13.2 percentage points) in recent internet use since 2011; however, in 2016 it was still the region with the lowest recent usage (82.0%)". ONS data suggest 18.8% of the Northern Ireland population have never used the internet, compared to 14.4% in Wales, 12.8% in Scotland, and 11.4% across the UK (Figure 9).

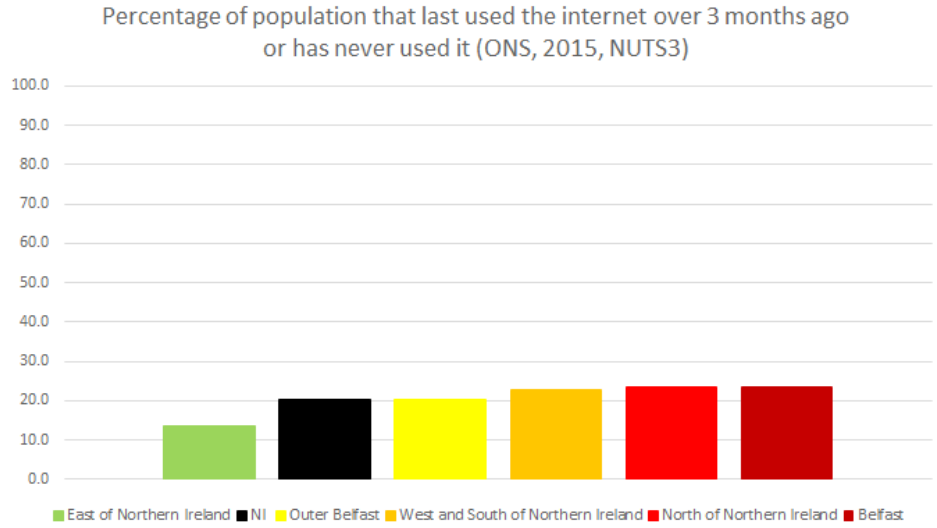
Figure 9: Percentage of Population that have Never Used Internet (ONS, 2016, NUTS1 regions)



The ONS also provide data for the 5 subdivisions at the NUTS3 level for Northern Ireland. The ONS data suggest a considerably lower percentage of people who have never used the internet in the East of Northern Ireland area (13.7%, Figure 10, Figure 11). This is considerably lower than the equivalent estimate from the Omnibus survey mentioned above (East of Northern Ireland non-users of the internet = 16.8%), and indeed the ranking of areas does not match. Though the Omnibus definition of a non-user is broader, both sets of geographic distribution data suggest the North of Northern Ireland contains a greater percentage of people who have never used the internet, are lapsed, or do not use the internet.

However, the limited distinction between areas in both sets, and the differences in ranking between the two sets underline that data across these geographies are based on small sample sizes and do not provide us with a clear focus for geographic attention. In short: in each area there are people who are likely to be digitally excluded and additional data is required to help to geographically target assistance.

Figure 10: Chart - Percentage of Population that last used the internet over 3 months ago or has Never Used Internet (ONS, 2016, NUTS3 areas)



Basic Digital Skills

In 2015 doteveryone (then Go ON) conducted research on digital skills (as opposed to access and use of digital technology) via Ipsos Connect's Capibus Tech Tracker survey. The survey involved 4,000 face-to-face interviews across Great Britain and Northern Ireland, estimating that 65% of the Northern Ireland population have or claim to have all of doteveryone's five Basic Digital Skills (Table 3 below provides details on the 5 basic digital skills) in the Go ON UK Basic Digital Skills framework.). This figures is considerably lower than the 77% estimated to have Basic Digital Skills in the UK as a whole. By their estimate around 500,000 of the total estimated 12.6 million UK adults lacking at least one of the five basic digital skills were resident in Northern Ireland. Estimates of geographic breakdown by doteveryone places Northern Ireland among the regions of the UK with the highest percentages of population lacking at least one of the five Basic Digital skills (34.5%, Figure 12).

Table 3: Basic Digital Skills framework (Go ON UK)

	Managing information	Communicating	Transacting	Problem-solving	Creating
Description	Find, manage and store digital information and content	Communicate, interact, collaborate, share and connect with others	Purchase and sell goods and services, organise your finances and use digital government services	Increase independence and confidence by solving problems and finding solutions using digital tools	Create basic digital content in order to engage with digital communities and organisations
Safety	Assess the accuracy of sources of information; use security tools when browsing; regularly update and run virus-checking software; manage parental controls	Understand how to manage your identities; protect yourself from scams; use the right security settings (including parental controls); protect your customer data	Use secure websites for financial transactions; protect your personal data; respect the privacy of others	Use accurate sources of support; avoid malicious websites, scams and pop-up windows	Be aware of copyright law; protect your personal data; respect the privacy of others
Actions for individuals	• Use a search engine to find the information you need • Search for deals on comparison websites • Store data on a device or in the cloud	• Keep in touch using email, instant messaging, video calls and social media • Post on forums to connect with communities • Communicate with organisations about their products and services	Understand and use marketplaces to buy and sell • Book your travel • Order your shopping • Manage your bank account • Set up and manage a Universal Credit account	• Teach yourself simple tasks using tutorials • Use feedback from other internet users to solve common problems • Access support services	• Create a social media post • Create a text document such as a CV • Create and share a photo album • Create and share feedback about products and services
Actions for organisations	• Store digital information on suppliers and customers • Search for new suppliers to find the best deals • Understand who uses your website • Discover potential growth opportunities for your business	Maintain customer and client relationships • Use social media to promote your business and connect with new customers • Improve your customer service by providing accessible product information and answers to frequently asked questions	• Maximise your selling potential through a website • Save time by applying for government business permits and licences • Manage invoices and accounts • Receive payments or donations • Protect yourself from fraud or scams	• Save on business travel and be more efficient by using video conferencing • Quickly understand which products and services work based on online feedback • Interpret simple analytics to improve website performance • Get solutions to problems from safe, accurate sources	• Create an informational or e-commerce website • Create content (pictures, logos, text) to promote your organisation and reach customers • Use social media and create communities to engage with customers • Create resources to improve employee skill levels

Figure 11: Map – Percentage of Population that last used the internet over 3 months ago or has Never Used Internet (ONS, 2016, NUTS3 areas)

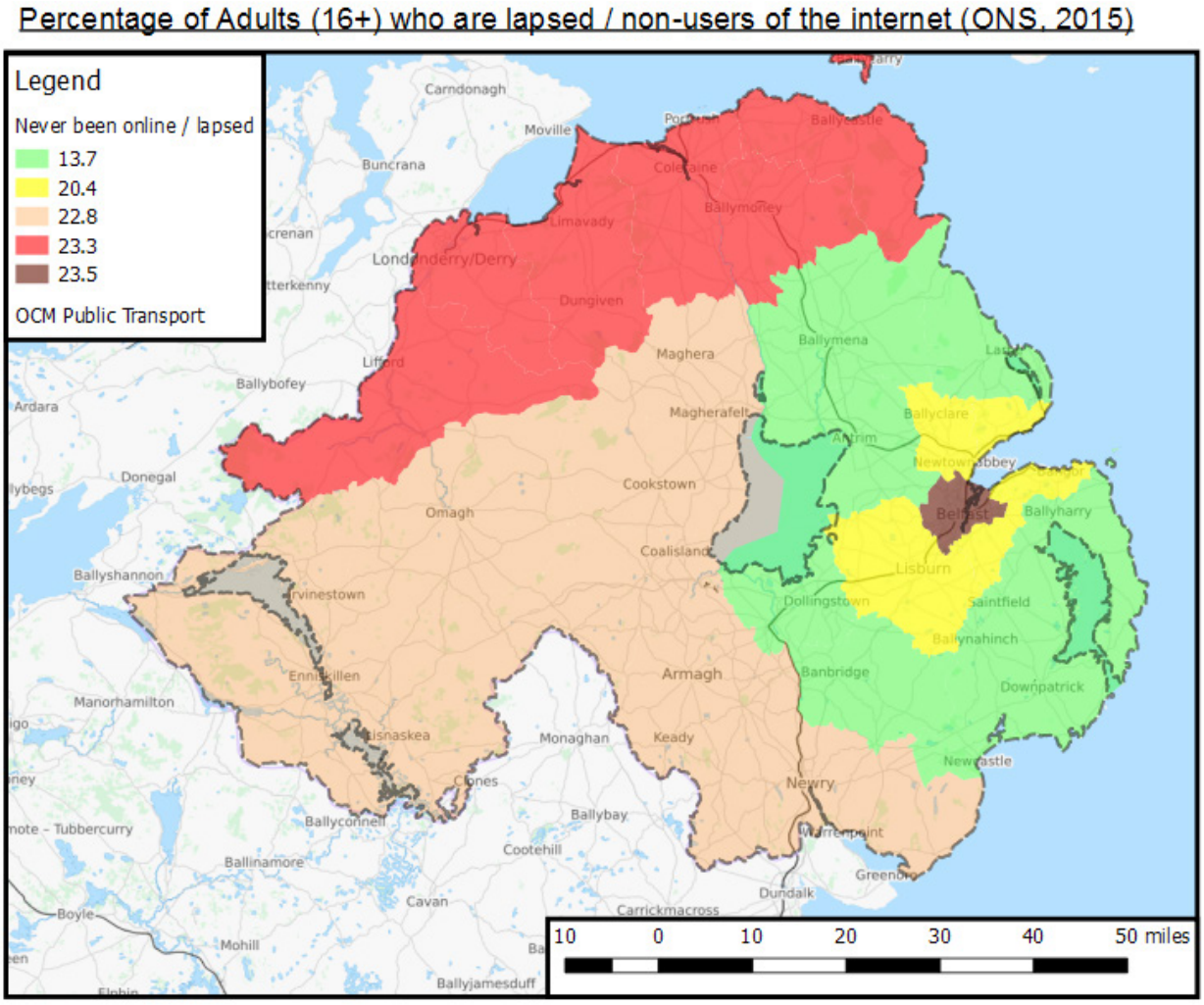
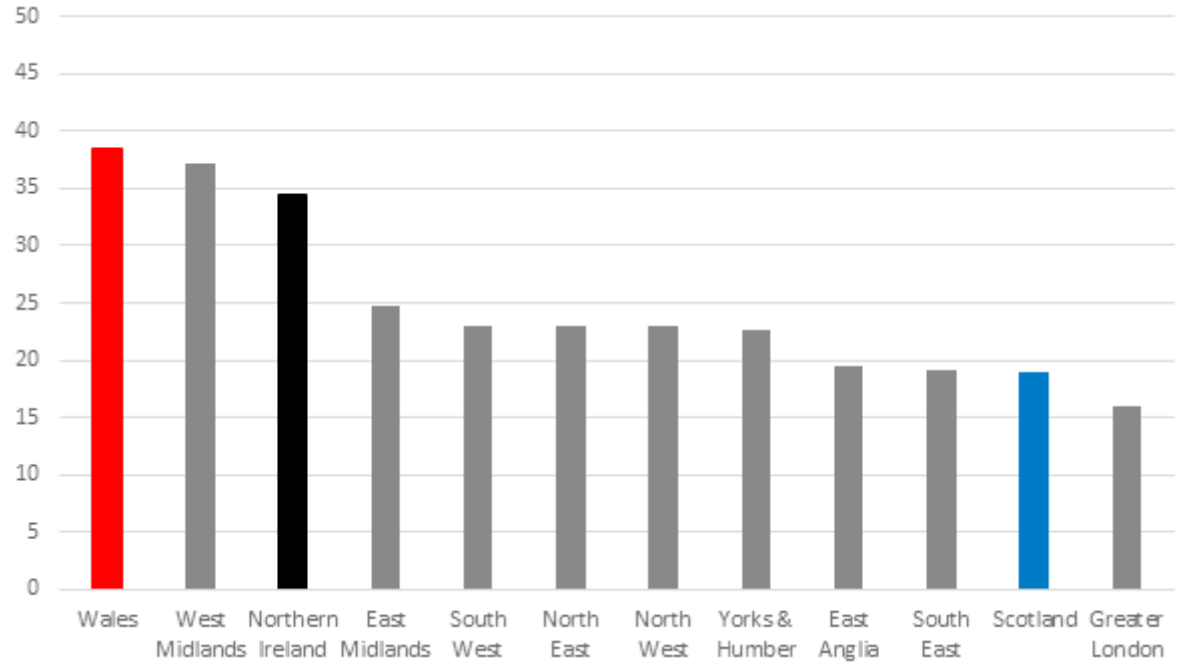
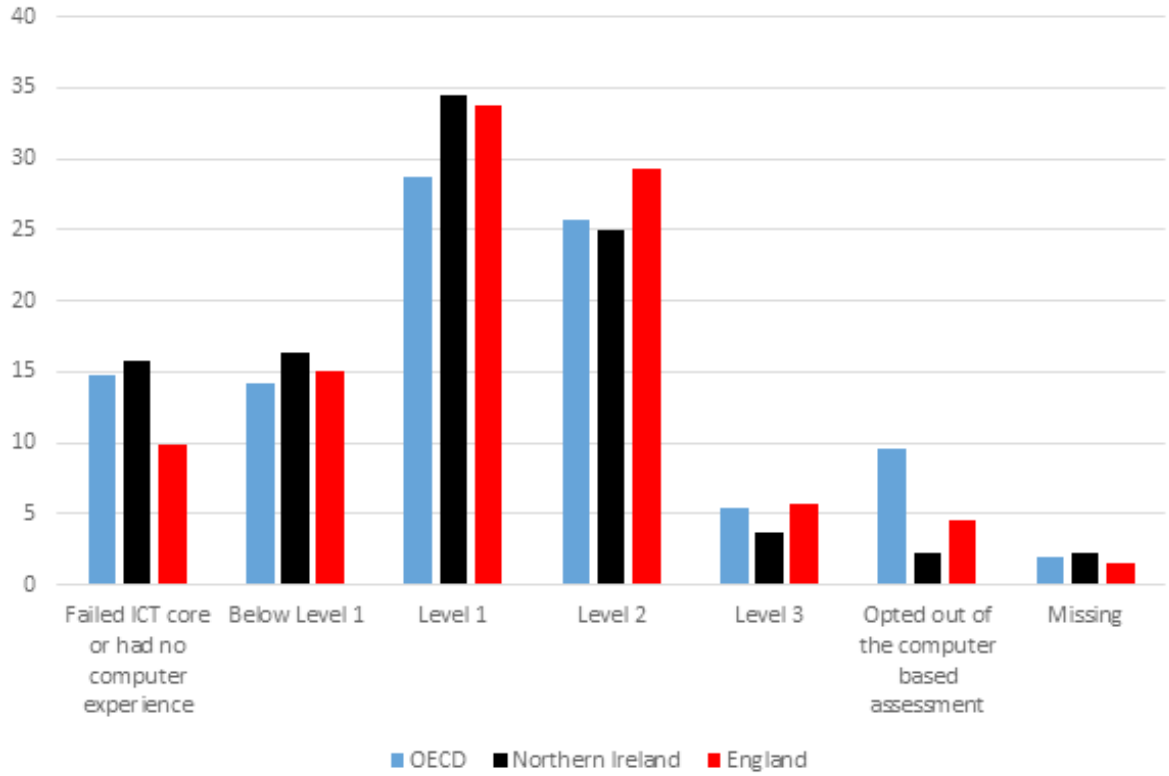


Figure 12: Percentage Population without 5 Basic Digital Skills



The June 2016 Survey of Adult Skills, a product of the OECD Programme for the International Assessment of Adult Competencies (PIAAC) which assesses digital skills in Northern Ireland among 33 countries, found a similar result to the doteveryone survey. Unlike the doteveryone survey which relied on self-assessment of skills, the OECD study involved participants being asked to perform fourteen computer-based tasks, however. Using simulated software on a test facilitator's computer, the Survey of Adult Skills estimated that 20.4% of the adult population of Northern Ireland (aged 16-65, n=3,761) are unable to use a computer – compared to the OECD average of 26% (n=215,942) and 16.1% in England (n=5,131), the only other part of the UK surveyed (Figure 13).

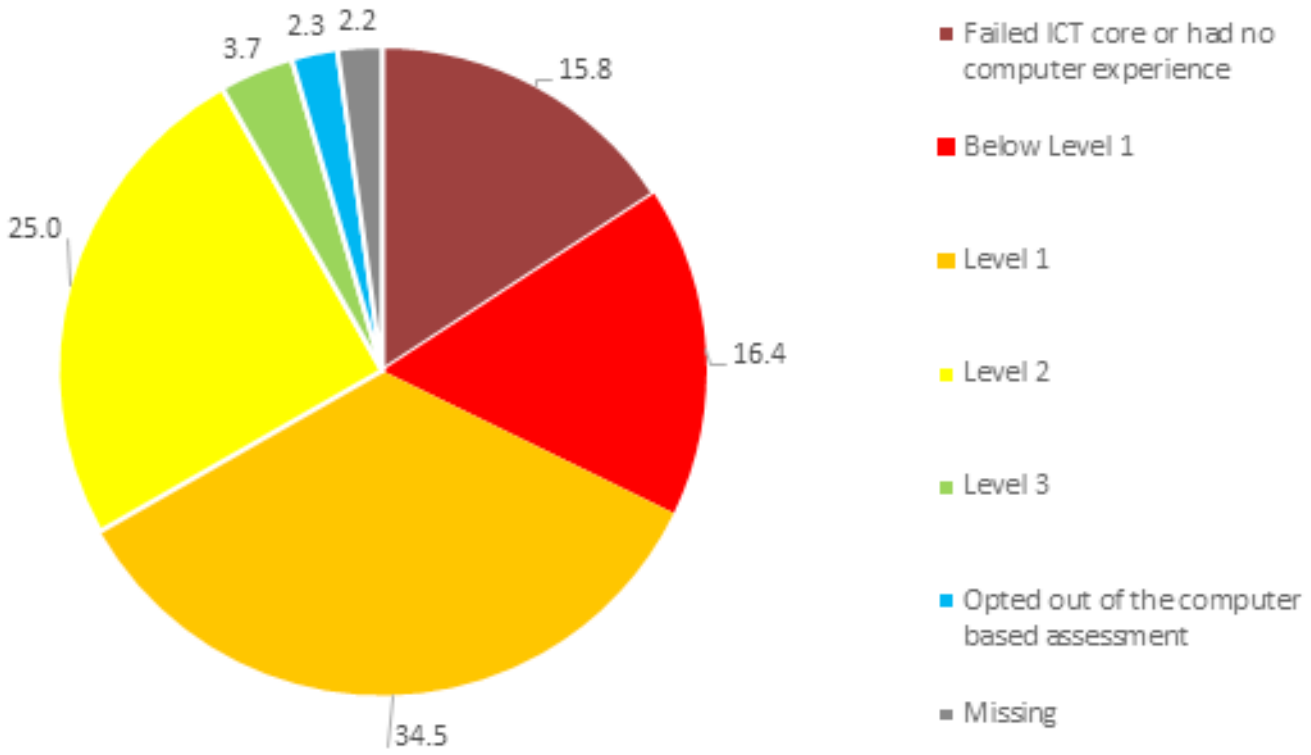
Figure 13: Level of computer skill assessed by OECD Survey of Adult Skills - Northern Ireland (n=3,761), England (5,131), OECD (215,942)



The figure of 20.4% is made up of 15.8% who failed the core test or had no computer experience, 2.3% who opted out of the computer based assessment, and 2.2% who of missing data. Looking strictly at the data of those who attempted the assessment, 32.2% of the population aged 16-65 have low or no digital skills (Figure 12 – 15.8% failed the ICT core, 16.4% below Level 1).

As the focus of the research is on workplace skills, those of retirement age were excluded. Given other sources emphasise lower digital skills among older populations, it would be reasonable to assume the percentage of adults with low or no computer skills is higher than the OECD estimates. This suggests that the doteveryone figure of 34.5% is approximately accurate if not an underestimate given they also estimate only 43% of those over 65 to have all five Basic Digital Skills, and 32% to have no digital skills (and the Omnibus finding referenced above that only 47% of those aged over 65 make use of the internet).

Figure 14: Level of computer skill assessed by OECD Survey of Adult Skills among Northern Ireland sample (n=3,761)



POPULATION ANALYSIS

Who lives in Northern Ireland?

In this section demographic data on the profile of the Northern Ireland population is explored. As stated previously in this report, there are clear differences in the extent to which people of different ages use the internet. Differences also exist across other measures, including disability, social grade, and employment status. The age profile of Northern Ireland as a whole is not particularly different to that for Great Britain, with the percentage of the total population in single year increments tracking particularly closely between the ages 21 and 59. A greater proportion of the population of Northern Ireland is aged under 21, and a slightly smaller proportion aged over 60 (Northern Ireland does not have a spike of population aged 60-67 as in the remaining portion of the United Kingdom).

Clearer differences can be noted when exploring data for the eleven Local Government Districts in Northern Ireland. For instance, the presence of three Universities (Queen's, St Mary's and Ulster) and the opportunities associated with large urban conurbations results in a larger percentage of the Belfast population being aged 18-30 (Figure 15). By contrast, a smaller proportion of the population of Fermanagh and Omagh is aged 18-24 – where instead a higher proportion are aged under 18 (Figure 16).

Figure 15: Belfast - Percentage of population (single-year increments), Mid-Year Estimate (ONS, 2014)

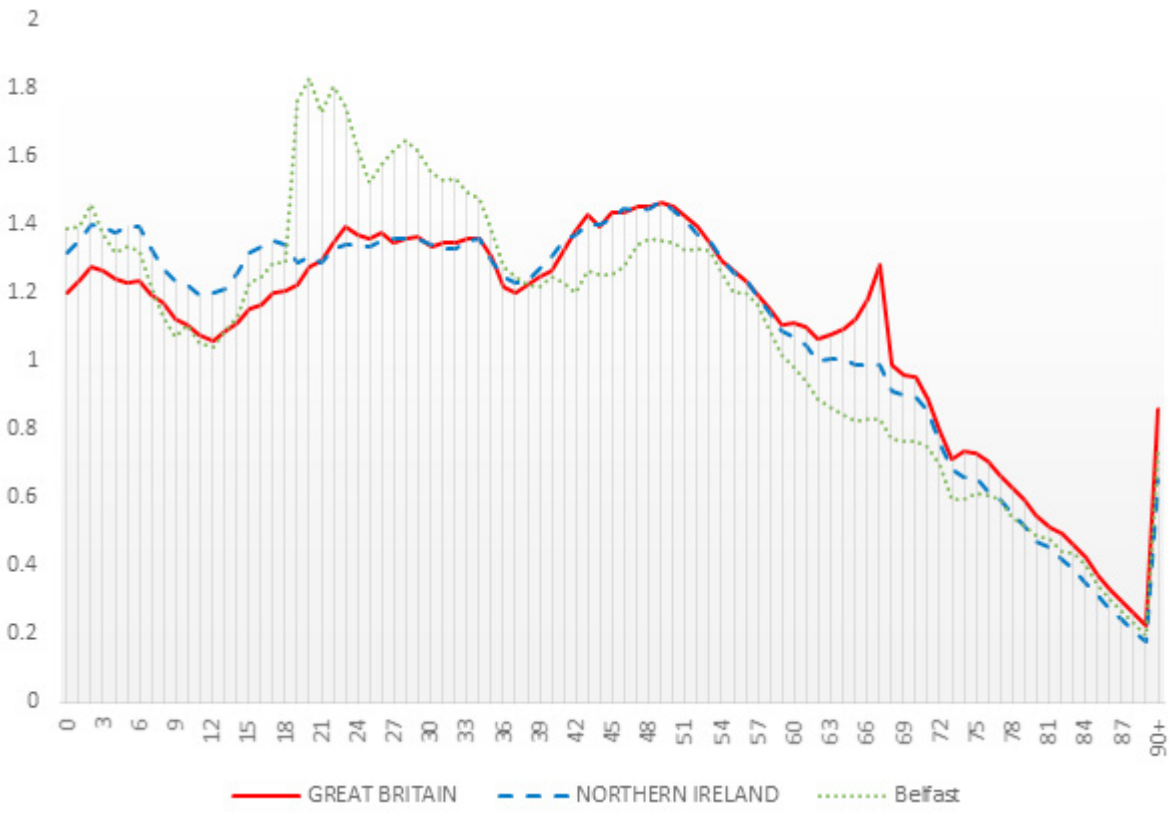
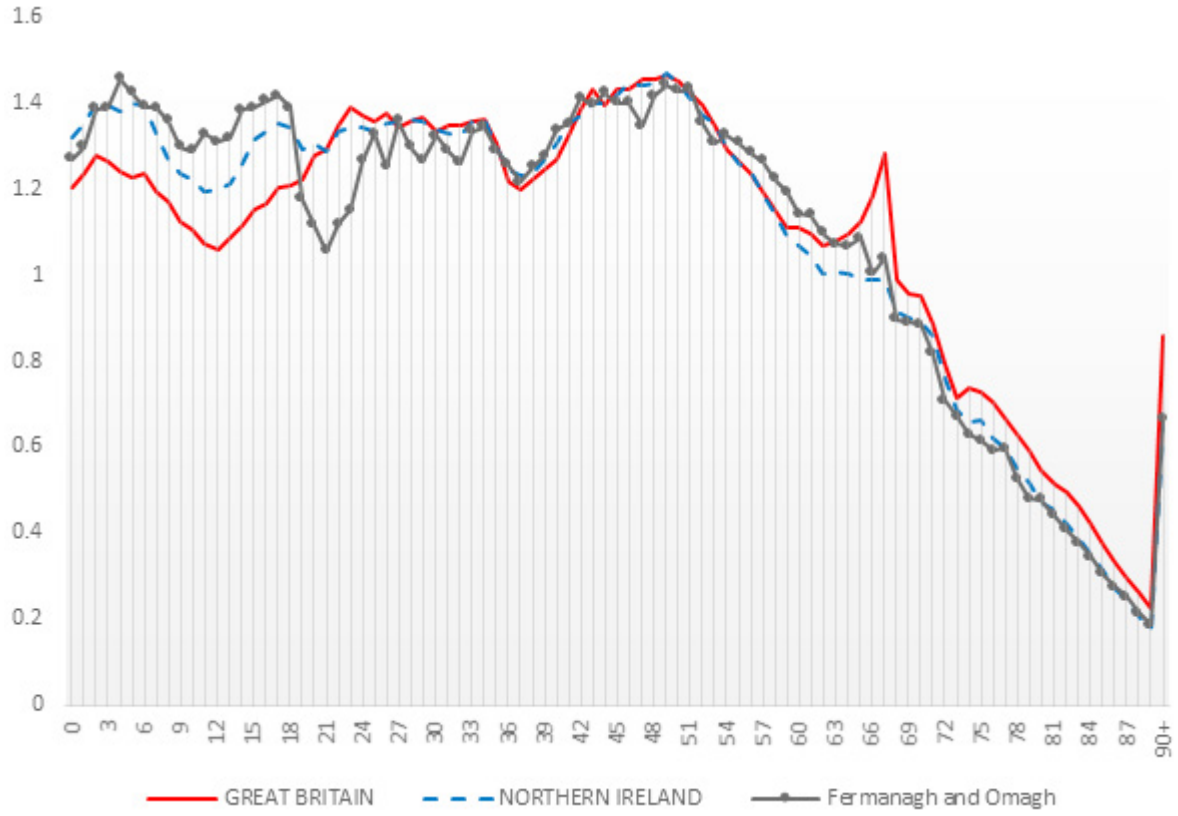


Figure 16: Fermanagh and Omagh – Percentage of population (single-year increments), Mid-Year Estimate (ONS, 2014).



Across Northern Ireland as a whole, 15.5% of the population is aged over 65. This is a lower percentage than in Great Britain (Table 4). Indeed, only in two Local Government Districts is the percentage of people aged over 65 higher than the UK/GB average (North Down and Ards, and Mid and East Antrim). In each Local Government District in Northern Ireland at least 13% of the population is aged over 65, however (Table 5).

Table 4: Population by Age Band, United Kingdom, Great Britain, Northern Ireland

Area	0-16	16-64	65+
United Kingdom	20.0	62.4	17.7
Great Britain	19.9	62.4	17.7
Northern Ireland	22.2	62.3	15.5

Table 5: Population by Age Band, Northern Ireland Local Government Districts ranked by percentage of population aged 65+.

Area	0-16	16-64	65+
North Down and Ards	20.1	60.3	19.6
Mid and East Antrim	20.5	61.7	17.8
Causeway Coast and Glens	21.4	61.9	16.7
Lisburn and Castlereagh	21.2	62.1	16.7
Antrim and Newtownabbey	22.3	62.0	15.7
Fermanagh and Omagh	23.1	61.6	15.4
Armagh, Banbridge and Craigavon	23.5	61.8	14.7
Belfast	20.9	64.5	14.6
Newry, Mourne and Down	24.0	61.6	14.4
Derry and Strabane	23.5	62.9	13.6
Mid Ulster	24.5	62.1	13.4

Identifying where those aged over 65 are located is important as they are more likely to be at risk of digital exclusion. Figures 17 and 18 show the total population and percentage of total population aged 65+ by Small Area – according to the 2011 Census.

While people of retirement age are clearly distributed across the whole of Northern Ireland, within each Local Government District there are identifiable concentrations in particular areas. Some Small Areas – geographic units with populations ranging from 98 to 3,075 people – have just 1 usual resident aged over 65.

Indeed, 1,912 Small Areas have fewer than 50 residents aged over 65 (in 206 SA's less than 5% of total residents are over 65), while just 24 have more than 200 residents aged over 65 (in eight SA's over 50% of the population is over 65).

In 658 Small Areas, the median age is over 45. Interventions to assist people of retirement age to use the internet could seemingly be targeted relatively easily, and some projects have already successfully done so – dependent on the availability of local venues and networks of communication. The latter question is in part related to the density of population, the subject of the next section.

Figure 17: Population aged 65+ by Small Area (Census, 2011)

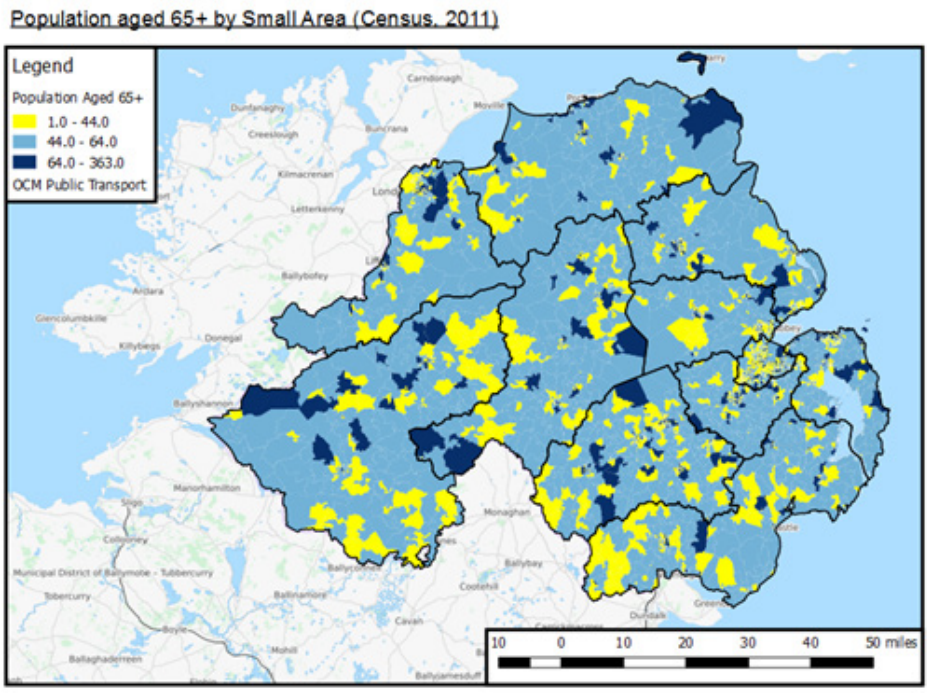
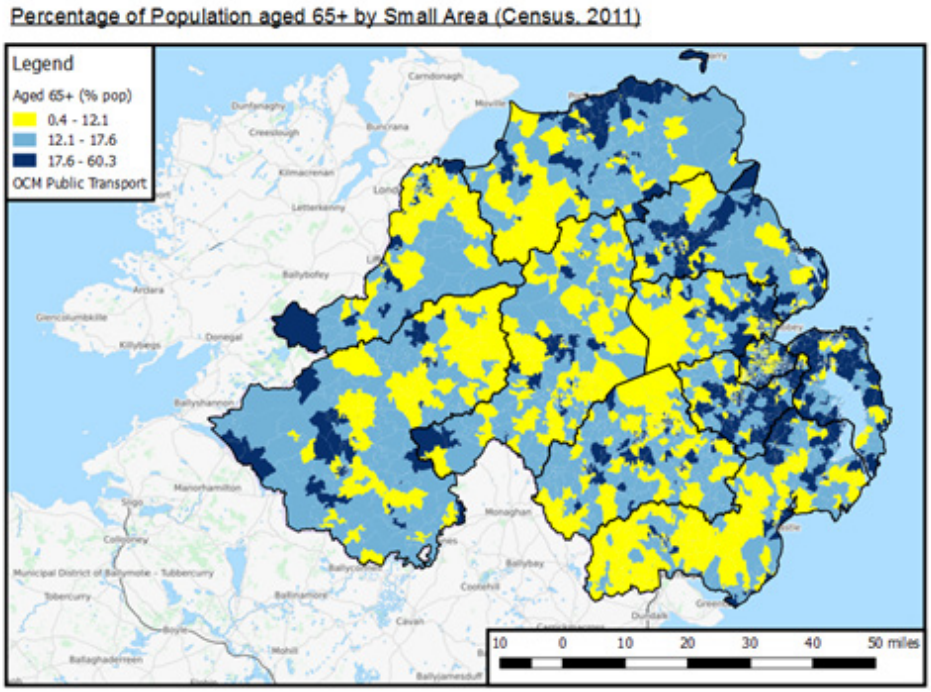


Figure 18: Percentage of Population aged 65+ by Small Area (Census, 2011)



Population density and rurality

Settlements in Northern Ireland are allocated to one of 8 population bands, according to data from the 2001 Census and the Statutory Settlement Development Limits provided by the Department for the Economy's Planning Service (March 2004). Settlements with populations above 4,500 are treated as Urban (Bands A-E), and those with a lower population treated as rural (Bands F-G). Table 6 reports the total and percentage population living in each settlement band type.

Table 6: Percentage of population by Settlement Type, Urban/Rural (Census 2001 / Planning Service 2004)

Settlement 2015 Band	Settlement Description	Population	Percentage Total NI population	Urban / Rural classification	Percentage Total NI population
A	Belfast City	280,211	15.5	Urban	62.5
B	Derry City	83,125	4.6		
C	Large Town (18,000+)	522,217	28.8		
D	Medium Town (10,000 - 17,999)	128,937	7.1		
E	Small Town (5,000 - 9,999)	117,434	6.5		
F	Intermediate Settlement (2,500 - 4,999)	77,423	4.3	Rural	37.5
G	Village (1,000 - 2,499)	103,500	5.7		
H	Populations of less than 1,000 and open countryside	498,016	27.5		

In summary, 62.5 per cent of the Northern Ireland population live in urban areas and 37.5 per cent in rural areas – with over a quarter of the population (27.5%) living either in open countryside or in settlements of fewer than 1,000 people.

Figure 19 shows the distribution of the different settlement types geographically. The rurality of the population distribution is important because internet use is higher in Urban areas - 83% of people in urban areas make use of the internet compared to 77% in rural areas (Omnibus Survey 2016, Figure 20).

Figure 19: Map – Settlement 2015 Bands (Department of the Economy Planning Service, November 2014)

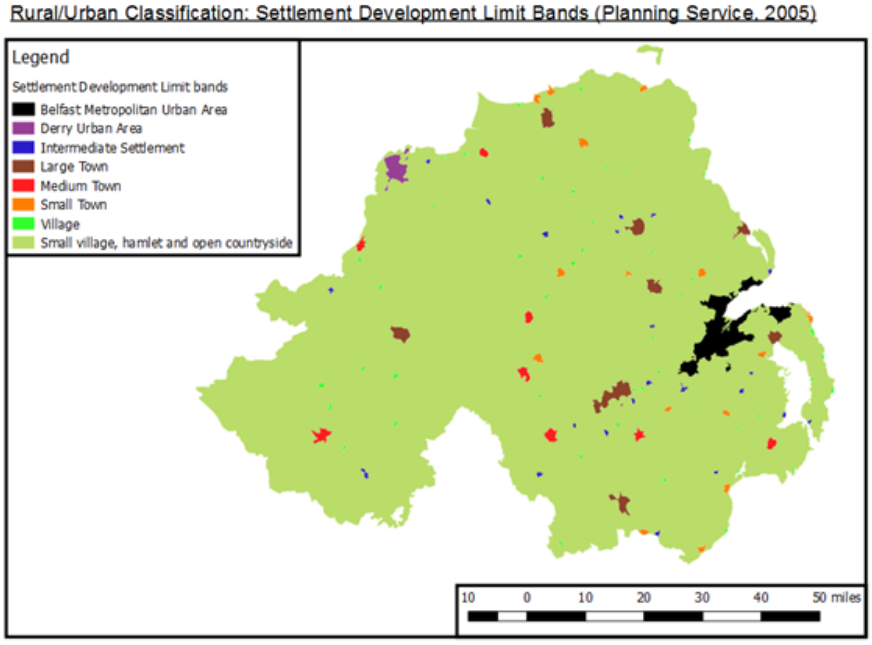


Figure 20: Percentage of the population that make use of the Internet, Urban/Rural (Omnibus Survey, 2016)

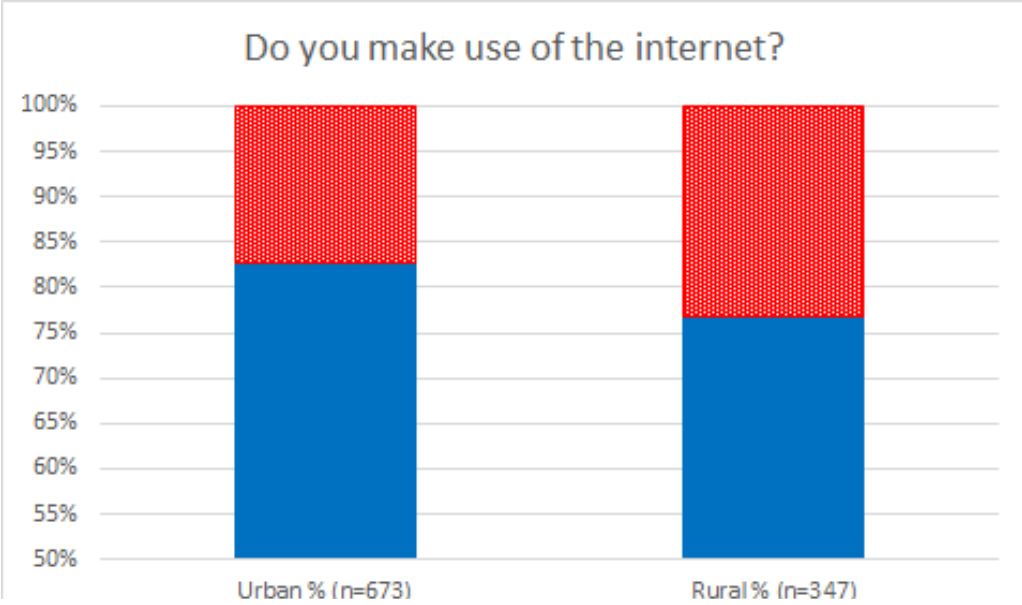
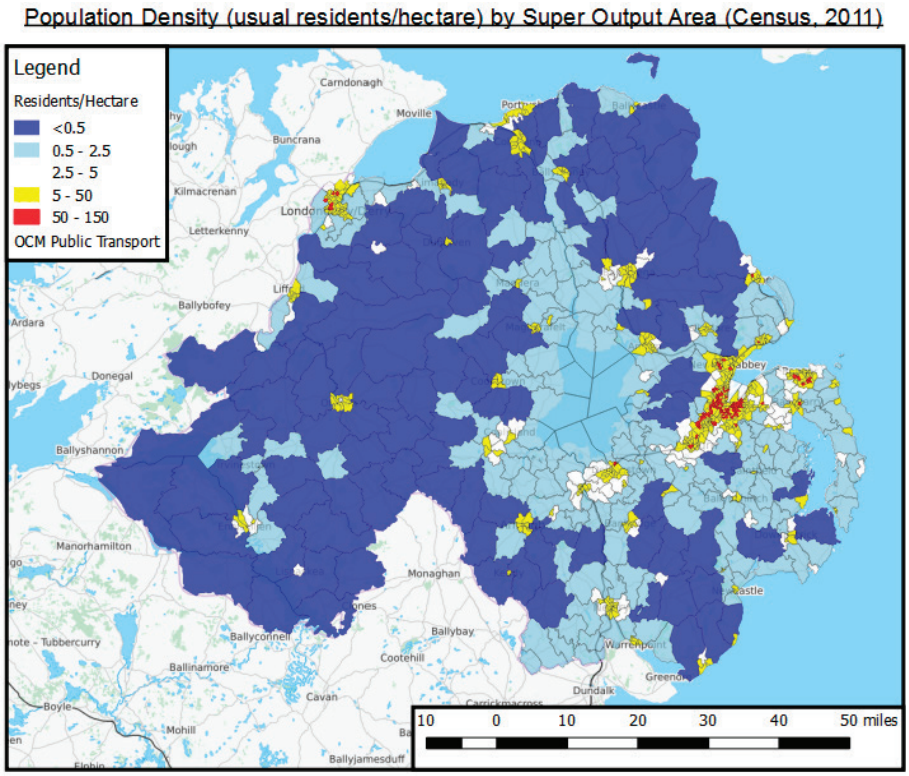


Figure 21 underlines that large areas of Northern Ireland are sparsely populated. More than a fifth of Super Output Areas (203 SOAs, or 23%) contain less than one usual resident per hectare. These areas account for 85% of the area of Northern Ireland but only 25.8% of the population. A further 102 SOAs (11%) have less than one usual resident for every two hectares – these account for 60% of the area but just 13% of the population. By contrast, 106 SOAs have a population of over 50 residents per hectare; 10.8% of the population live in 0.22% of the area. Population density is over 80 residents/hectare in just 24 SOAs, and only eleven have a density of over 100 residents/hectare.

Figure 21: Population Density (usual residents / hectare) by Super Output Area (Census, 2011)

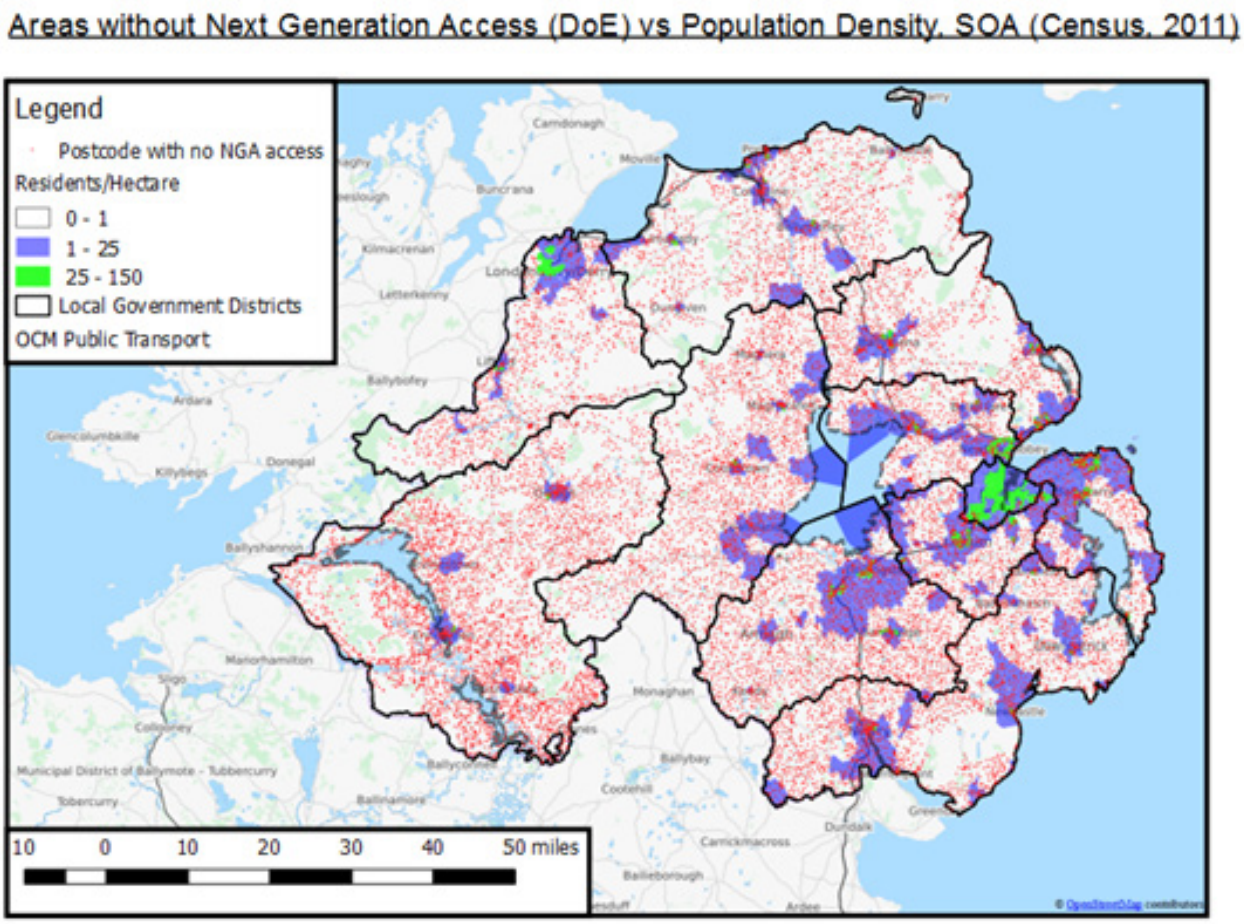


The high proportion of rural and sparsely populated residents suggests that any digital inclusion efforts targeted at these groups will either need to be delivered through hubs in areas where people already travel to access jobs, goods or services, or via mobile methods of delivery. Alternatively, communication and/or assistance can be provided in association with services on which people likely to be digitally excluded may rely, such as provision of social housing or social security payments. The additional distance to services and other opportunities creates a greater benefit to be gained by rural populations. Questions of connectivity will also be of greater importance in rural areas. Engaging with small groups of people that are separated from each other by large distances is inherently resource inefficient using external tutors or coaches. In such situation it will be more efficient to develop local champions that can provide support from within the community. Recruiting and managing such champions presents its own costs and problems, but is likely to be the most effective and sustainable option.

The Northern Ireland Superfast Rollout Project, managed by the Department for the Economy (DfE), is aiming to extend the availability of Superfast Broadband across Northern Ireland. British Telecommunications (BT) has been selected to deliver a £14.1m public funded 'Phase 2' project under the Broadband Delivery UK (BDUK). This follows the award of the 'Phase 1' project to BT in 2014 (public funding of £19.3m).

The proposed intervention areas are 'White areas' where Next Generation Access (NGA) networks capable of delivering reliable download speeds of at least 30 Mbps do not exist and are unlikely to be built within 3 years. The Department for Economy has recently concluded a period of public clarification of the intervention area (4th December 2016). A considerable proportion of these postcodes are in rural areas with low population density, but this is not exclusively the case – and larger settlements include concentrations of postcodes without NGA (Figure 22).

Figure 22: Postcodes with no Next Generation Access (Department for Economy), vs population density by SOA (Census, 2011)



OFCOM collects data on "public Wi-Fi networks that are purposely made available to members of the public". The most recent data collection period – June 2015, records a "reliable minimum" of 580 hotspots. As Figure 23 shows, these hotspots are focused in the more densely populated areas, as would be expected. OFCOM also collects data on the total average data downloaded by Local Government District area, which is clearly higher in the more urban LGDs covering Belfast and Derry (Figure 24).

Figure 23: Public WiFi hotspots (OFCOM) Vs Population Density (Census 2011)

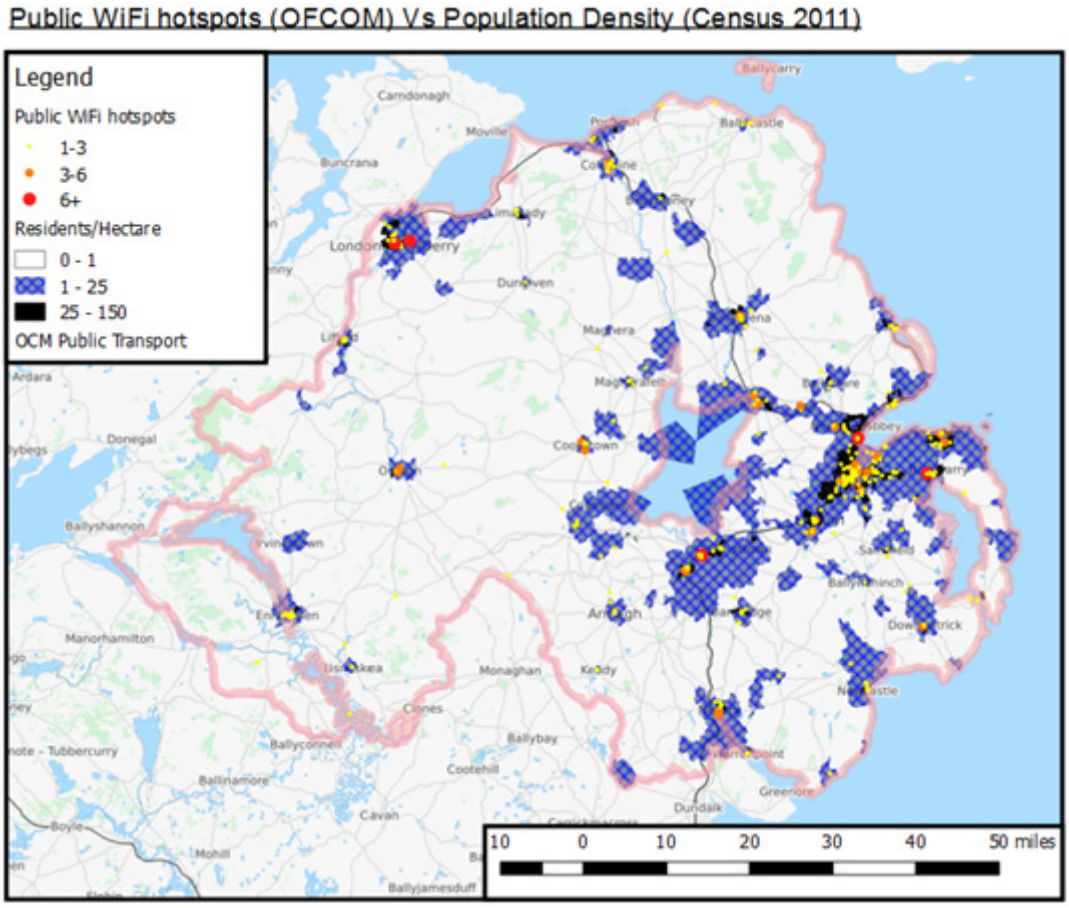
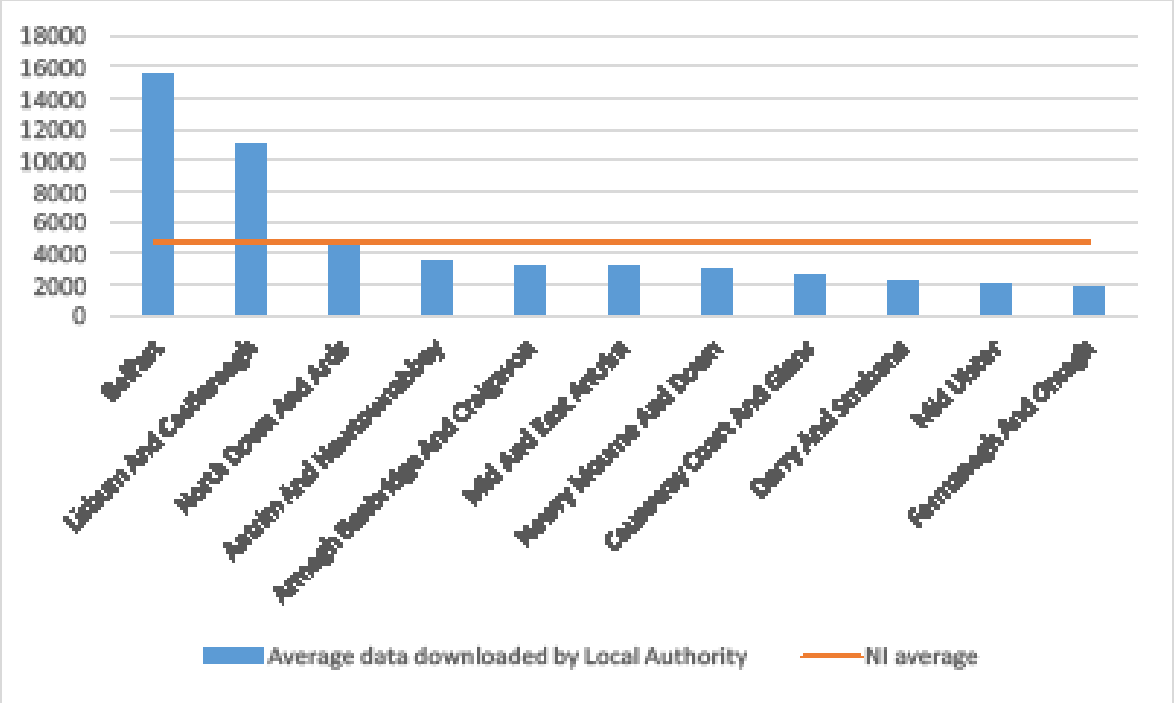


Figure 24: Average data downloaded by Local Authority (WiFi hotspots, GB)



Segmentation of Households using Experian's Mosaic Tool

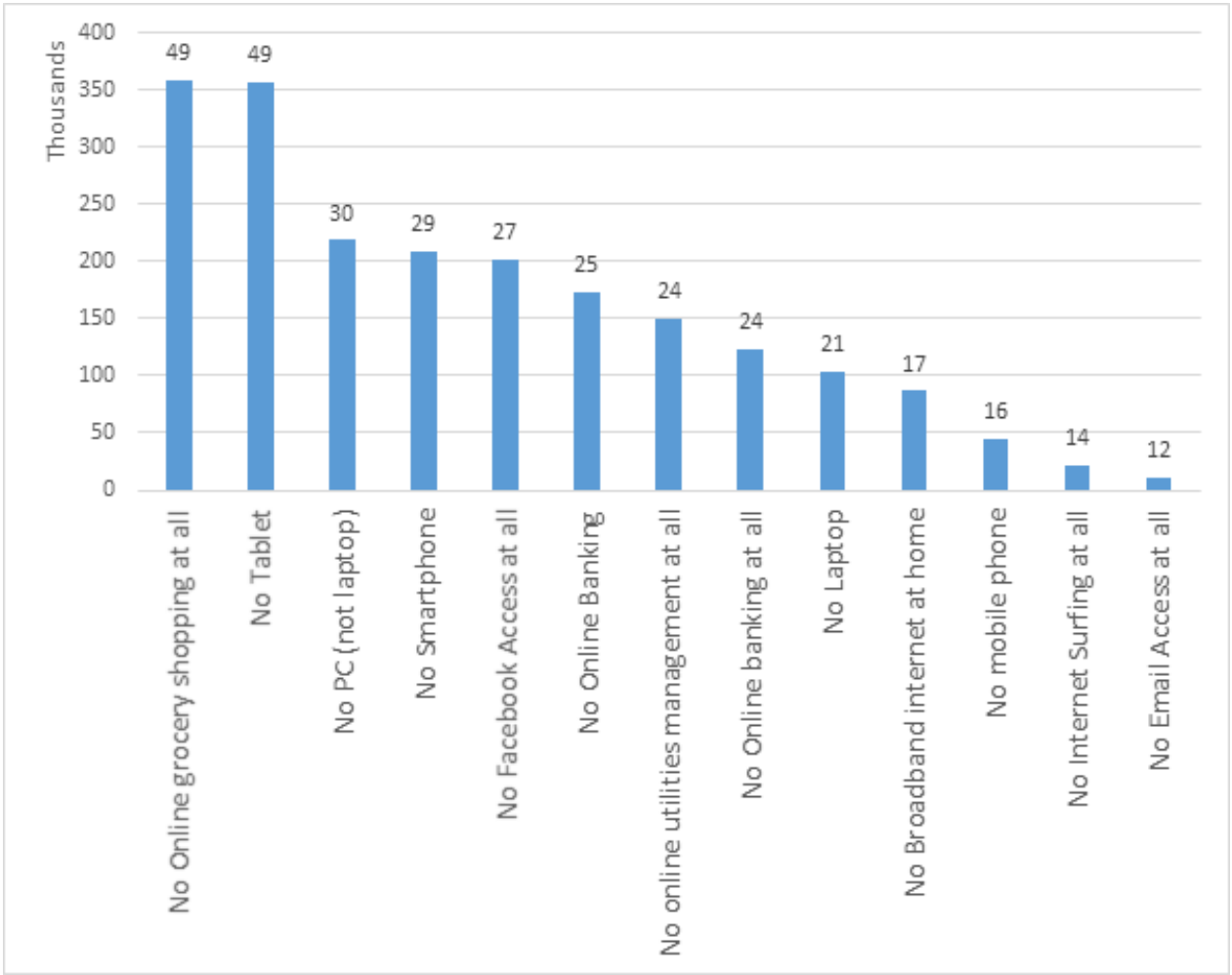
Experian's 'Mosaic' Segmentation Tool allocates households to one of 66 types, which in turn make up fifteen larger groups (the percentage in each of the fifteen group is presented in Figure 34). Over 50 per cent of the households in Northern Ireland outside the Belfast Local Government District (50.7%, 40% of total NI population) are allocated to three of the fifteen Experian Mosaic larger groups: Rural Reality (23%), Country Living (18%), and Vintage Value (10%). Over 60 per cent of all households in Northern Ireland are allocated among fifteen of the 66 types.

Three of the most prominent types in Northern Ireland are among those likely to be at risk of digital exclusion according to Citizens Online analysis. Across Northern Ireland as a whole, households in these types together make up 16.4% of all NI households: G27 'Outlying Seniors' (6.2%), N61 'Estate Veterans' (6.4%), and O62 'Low income workers (3.8%). When the Belfast LGD is excluded, these types account for 13.8% of households (G27 – 7.7%, N61 – 6.1%, O62 – 3.5%). Each of these types represents households where incomes are lower, occupants are older, and use of technology is lower than average.

Experian say households allocated to type G27 are "infrequent users of the internet", and that they are the "most likely type to wait until their TV and other equipment is worn out before upgrading". Households in type N61 "have largely been left behind by technology and can feel confused by computers. Apart from mobiles, ownership of technology items is low". "Many" of those defined as O62 "haven't been able to keep up with modern technology."

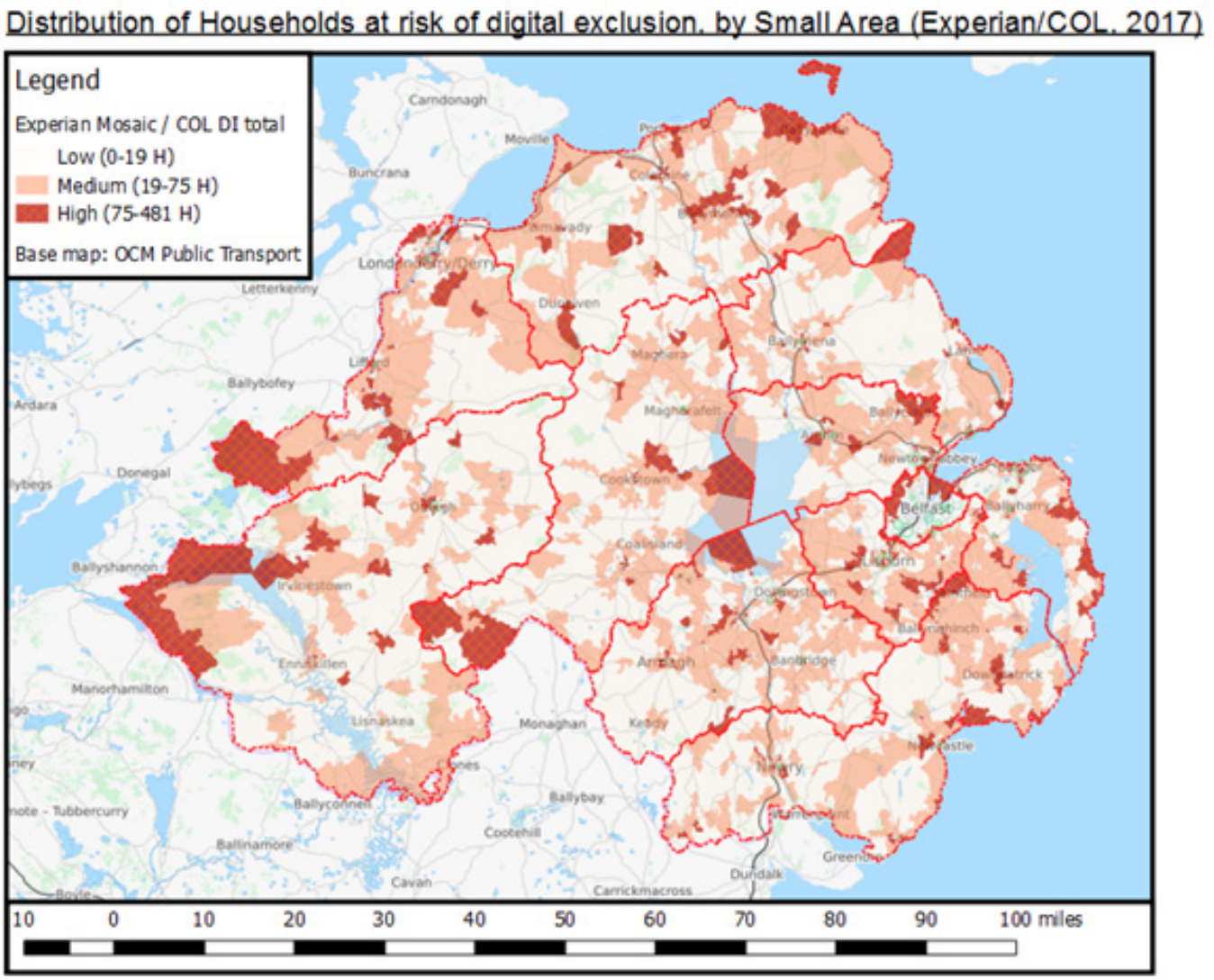
Citizens Online has analysed the data Experian use to segment Households into Groups/Types, and using this and data for populations in each Group/Type, can create estimates of the number of Households who do/don't hold certain attitudes, undertake certain behaviours, or own particular devices. This allows us to estimate that, for instance, over 350,000 Households in Northern Ireland (49%) do no online grocery shopping at all – or that over 75,000 Households (12%) have no broadband internet at home (Figure 25).

Figure 25: Households in Northern Ireland who are not using certain digital devices/services



Citizens Online commissioned data from Experian by Small Area – geographic units containing around 150 households (approximately 400 people) of which there are 4,537 across Northern Ireland. Using our own assessment of measures picked from the 1,232 that Experian collect data on, we identify Experian Mosaic Groups and Types more likely to be at risk of digital inclusion: Groups F, K, N and O – and types A04, G27, L51 and M56. Figure 26 shows the areas with households allocated to these groups and types by Experian are located. Not every person or households allocated to these groups is likely to be digitally excluded, but the proportion in these groups that do not have access to devices or use certain digital services is higher than average (Households without access to devices or with certain behaviour as listed in figure 24 above are more likely to be allocated to one of these types).

Figure 26: Distribution of Households at risk of digital exclusion, by Small Area (Experian/COL, 2017)



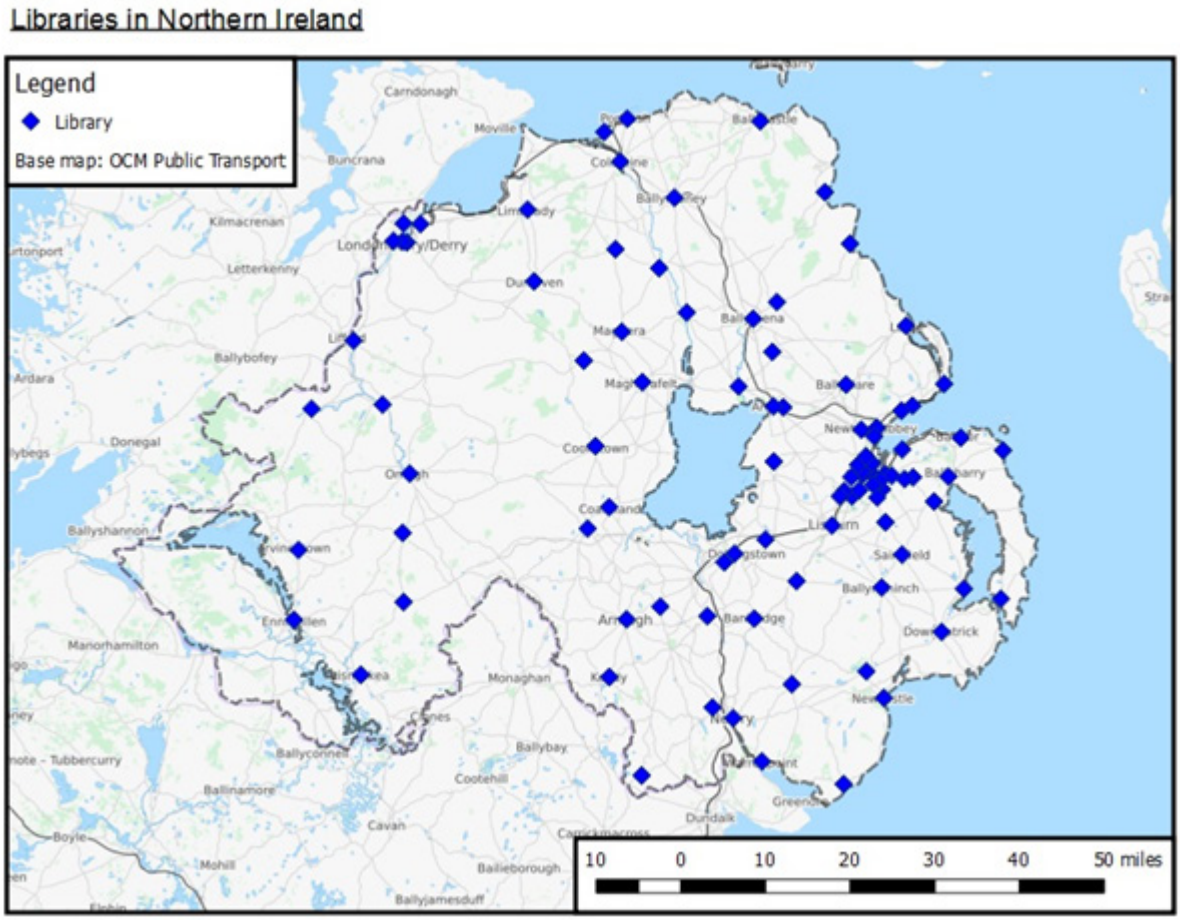
Existing Digital Inclusion delivery / projects

Libraries

LibrariesNI is an 'arm's length' organisation accountable to the Northern Ireland Executive and has a significant amount of autonomy and capacity to assist in delivering digital skills services to the public. The service is already a key delivery partner in Northern Ireland for digital inclusion.

The Northern Ireland Libraries service provides a 'Got IT?' course divided into three introductory sessions (computers, the internet, email) via its network of 98 libraries (Figure 27). Each session lasts between 45 minutes and an hour. There are around 1,276 terminals across the library network, with at least one in every library. Every library has Wi-Fi available to members free (people can either pay for Wi-Fi access or join as a member for free).

Figure 27: Libraries in Northern Ireland (Libraries NI)



Over the next few years Digital Inclusion is planned to be a key area of delivery for Libraries. At the time of our research the service was in the process of reviewing its service plan for the year and this included continuing to work alongside the Department of Finance Digital Inclusion team to deliver GO ON NI sessions, planned in advance each quarter. There was also an indication that that new GO ON NI courses were in development, with one possible course covering digital skills for people who have dementia. Current course content includes:

- **Travel** – Use the internet to plan journeys and holidays.
- **Editing Digital Photographs** – Some basic sessions for the absolute beginner. Pick up some tips on editing your digital photographs. Learn how to get them from your camera to your computer, how to save them, make adjustments and print.
- **Get That Job** – Explore websites offering jobs, benefits and career information.
- **Organise Your Life Online** – Find out about online banking, how to pay utility bills, link to websites offering money advice, access to benefits information and use NI Direct website e.g. to book your MOT.
- **Shopping Online** – Learn the basics of shopping securely online.
- **Your Health Online** – Explore the Health in Mind website. Get tips and hints on keeping mind and body healthy, including self-help techniques. Learn who else can help with health issues.
- **iPad** – a basic introduction to the iPad.

Libraries also offer Got IT courses / support which can be up to five sessions of 1-1 support for members of the public. These sessions will continue to be offered into the future and link in with the Universal Credit roll out, with availability of staff to support with those specific required skills.

Some Libraries have a branch iPad (the larger centres) and this offer will likely be developed over time to include other brands. The team that deliver the Go ON sessions usually 6-7 tablets available and some laptops, along with Samsung tablets and Kindle Fire. Trainers usually have one device of each type to help with demonstrations to the public.

Libraries produce their own brochures of activities and events which are publicised via the Digital Assist Steering Group, U3A and POP NI

NIHE (Northern Ireland Housing Executive)

NIHE has around 3,500k staff across Northern Ireland and supports approximately 90,000 tenanted households, including general needs and supported accommodation. It has offices in the regional centres as well as maintenance depots, smaller offices in some of the smaller rural towns. It acts as a strategic landlord to its tenants, collecting rent and also processing all Housing Benefit applications for all citizens in NI as well as its own tenants. There are 48 tenant facing offices, but not all have the same service offer – this depends on the location and number of tenants being supported.

NIHE have a Digital Inclusion Project with several different work strands, for example NIHE are trying to bridge both a digital and religious divide using digital means through a project which has provided a number of tenants with tablets and a year of free broadband. This is NIHE's only Digital Inclusion project in delivery phase.

There are other parts of the organisation that are doing digital inclusion on a smaller scale through promotion of activities. NIHE also have an annual £500,000 grant scheme to Social Enterprises - some have received funding that had a digital remit (e.g. money toward free broadband and equipment) but were not digital inclusion specific. There is a £50,000 max limit on these bids.

NIHE are keen to develop and support a digital inclusion model. 500 new Patch Managers could be responsible for Digital Hubs in their area and act as conduits between NIHE and their tenants, making a natural fit for an embedded Digital Champion model, however training and support would definitely be need for some staff.

Digital Transformation Service

The purpose of the NI Executive's Digital Transformation Programme is to provide better public services in Northern Ireland. The Northern Ireland Executive had a commitment to transform 16 transactional services by 2016. To drive delivery, a small dedicated team, Digital Transformation Service (DTS), was established in Enterprise Shared Services (ESS), in the Department of Finance (DoF), to work with departments to support their digital transformation programmes and to help drive more services online. DTS supported departments in the development of an NICS Citizen Contact Strategy and all Departments have strategic digital action plans in place which set out how they will drive forward the 'digital first' agenda across Government.

The nidirect portal www.nidirect.gov.uk is the primary delivery vehicle to implement the Citizen Contact Strategy's recommendations supported by a multi-channel contact capability. nidirect is supporting channel shift and digital transformational programmes and initiatives within the Northern Ireland Civil Service, including the 'Agile' development of the electronic single application form for the Department of Agriculture and Rural Development's CAP reform programme. In October 2014, NI Direct suggested this work had contributed to an increase of more than 200,000 new online transactions and 50,000 new online payments (worth £1.6 million) over the previous 12 months, together with a reduction in switchboard calls of 25 per cent.

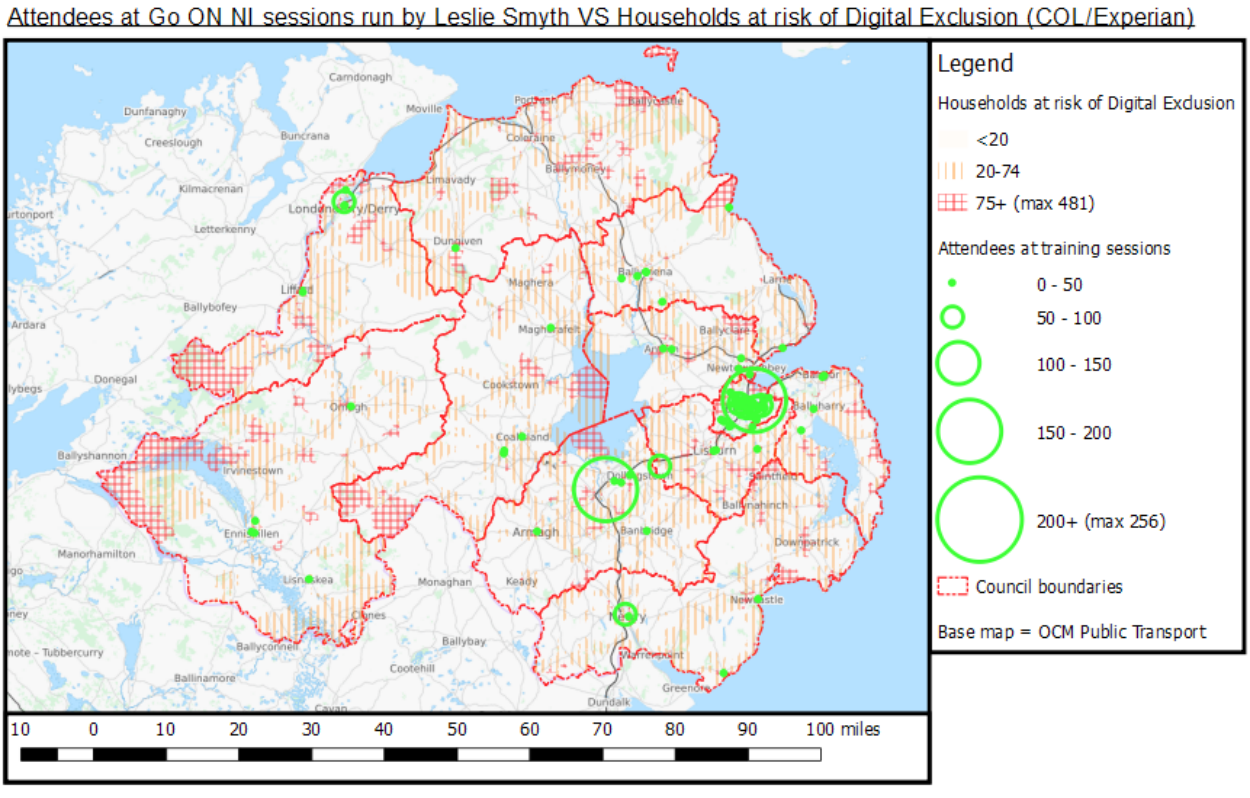
DTS will be publishing "Making Lives Better" – a strategy for digital transformation of public services, in autumn 2017 and will oversee its implementation. This Strategy will enable collaborative planning and design of public sector digital services to deliver Programme for Government outcomes through 'increased usage of online channels to access public services'. It provides real opportunities for us to radically rethink, redesign and rejuvenate how we do business and achieve Programme for Government outcomes. The Strategy recognises that whilst Government wants everyone to become digital citizens, there are people who are not online and digital inclusion has therefore been included as a Strategic Enabler to provide support to those who might otherwise be left behind.

Go On NI

The Digital Inclusion Unit within the Department of Finance exists to give citizens access, skills, motivation and trust to use digital services, and does this primarily through the Go ON NI programme (nidirect.gov.uk/go-on). NI Direct links to Go ON NI, which describes itself as bringing together "all the wonderful initiatives, places and tool to help and encourage off-liners to become internet beginners". This includes working in partnership via the Digital Assist Steering Group and other project-based partnerships, and in particular involved with Business in the Community and Barclays Digital Eagles with regard to volunteer Digital Champions to deliver the "Silver Surfers" programme of events.

Regular free courses are listed clearly (although not in the most accessible format) on the website, with ten free short courses on learning to use digital technology listed at time of writing from 7th-25th April. Figure 28 provides a geographic indication of the spread of a portion of the sessions provided by one member of the Go ON NI team (the data available). This reveals an emphasis on Belfast which has been the result of greater engagement by Belfast City Council than has been possible with the other local authorities.

Figure 28: Distribution of attendees at Go ON NI training sessions,



Online resources and regular skills sessions are complemented by diverse marketing, including hard copy communications. Digital and hard-copy guides including use of Social Media Training are of good quality, and the clear, concise and up-to-date Digital Assist Training Guide includes mention of NI Direct and the digital public services available. A conversation with a member of the Go ON NI team revealed that "Since 2016 marketing and communications has evolved from mainly targeting "get online" to also including "enhance and improve your digital skills and knowledge [... following] feedback in evaluation forms from events, observing IT awareness sessions and training and direct discussion with seniors and training partners." This has led to the development of sessions specifically designed to help beginners with tablets, social media and digital photography.

While Citizens Online endorses this general approach, it is not immediately obvious that Go ON NI marketing and communications involves targeting different messages and materials to different groups, though - as the same communication made clear, it has been "noted at many events, there is now a definite split in ability of those attending. There are still those who need the get online basic introduction whilst many are now at the progression stage, moving forward with online communications, transactions and life on line skills." A recommendation to experiment with marketing messages and materials designed to appeal to (and ideally tested with) different user groups forms part of the basis for our proposed pathfinders.

Supporting Communities, working in partnership with the NI Direct Digital Inclusion Unit, have a network of over 1,000 Digital Champions. They provided both accredited (OCN) and informal training (from drop-ins to 10-week courses) via community groups in dozens of locations across Northern Ireland, as well as assistance with MOT/Car Tax and Online Prescriptions. They also signpost to partnership projects including the Libraries NI Got IT programme. Learners are surveyed at the beginning and end of sessions, and Supporting Communities has reported on skills gained and wider social benefits to the Department of Finance.

SURVEYING THE ECOSYSTEM: BASELINE 2 FINDINGS

Overview

Everything in this section is intended to be a reflection of "what you told us", either through formal surveys, telephone interviews or in conversation with us in the course of our work. We reflect back and make observations on the 'digital readiness' of the digital inclusion ecosystem, based on what we've heard and observed during our Baseline process.

The purpose of undertaking formal surveys is to enable us to source statistical data on the experience of individuals and organisations who are delivering digital inclusion work and other relevant activities. This forms part of the quantitative and qualitative research to support our findings.

Baseline 2 formed the bedrock of evidence that resulted in the creation of the Digital Resilience Foundation Programme – the universal set of recommendations that largely cover how any future digital inclusion partnership should operate and develop, as well as how individual organisations could and should behave within the digital inclusion ecosystem.

Digital Assist Steering Group

The Digital Assist Steering Group is an established partnership forum for digital inclusion in Northern Ireland. Our review found it to be well attended and highly respected amongst the organisations and representatives who spoke to us. The group is facilitated and chaired by Business in the Community (BITC), with a line into nidirect and the Northern Ireland Executive through the Department. of Finance's Digital Inclusion Team. This informal but effective partnership is something that few localities around the UK can boast of. It is to the credit of partners that it exists and continues to be a useful resource for those involved.

The group clearly shares both a common interest and key goals and has been engaged with cross promotion of activities and sharing of information and data around digital inclusion activity. Attendees report that the forum has enabled some reduction in duplication of effort, more joined up thinking around the digital inclusion agenda as a well as data and strategic insights to support an evidence based approach from organisations such as OFCOM and NISRA.

Where there is further opportunity for development is either in the joint commissioning of digital inclusion services or in in joint bidding for digital inclusion or digital transformation / innovation funds that might be available. There may also be ways for this group to have an improved (or more formal) link to other digital, social or financial inclusion forums.

It would also be timely to review who is attending those meetings and who is yet to be included. The circulation list is wide, yet from a review of attendees in 2016, it appeared that while some of the core membership returned to every meeting, others may attend once and their organisation be represented by a different colleague another time - there was a sense that some of the continuity of messages may be being lost at a strategic level. As with any informal partnership of this type, it's not always clear whether its best fit is in strategic steer or operational delivery - and the representation on the group is a mix of both. It's also worth considering how the group might get better engagement from the local Council areas from other Counties. While Belfast City Council are represented on the group, other areas are not - and they are in our opinion key to delivering a resilient system of digital skills support.

Digital Maturity Assessments

Digital Maturity Assessments (DMAs) were offered to key organisations and departments operating in the digital landscape. We approached all organisations within the Digital Assist Steering Group and also specifically targeted some areas to obtain feedback, particularly to get insight into different Northern Ireland Executive Departmental views on the digital agenda

Eight DMAs were completed with the following organisations:

- **Advice NI**, 2 members of staff
- **Clanmil Housing**, 3 members of staff
- **DAERA** (Department of Agriculture, Environment and Rural Affairs), NIE

    - Area Based Schemes Systems Management Branch
    - EMFG (Environment Marine & Fisheries Group
- **Dept. of Finance**, Northern Ireland Executive (NIE)
    - Digital Inclusion Team
- **IgniteIT**, 3 members of staff
- **NICVA**
- **Supporting Communities**

The results of these remain confidential to the organisation or department which completed them, however, we were able to draw some thematic conclusions from them and identify some opportunities for potential future digital development work.

Findings

These responses were intended to represent a cross section of organisations that are supporting digital inclusion in NI. We were able to produce some interesting findings from the supported completion process of conference calls and survey responses and make some observations about common themes that came up in discussion.

Responses came from a range of organisation types, from central government departments, across charities and one response from a private sector SME, providing a broad perspective of views. Also represented were organisations with a large number of staff (3000+) to very few within some of the smaller charities.

Telephone Interviews / Observations of partner organisations

As an alternative to full DMA consultations, several organisations offered their time for a telephone interview. These were:

- **Department for Communities**
- **Northern Ireland Housing Executive, 2 members of staff**
- **Libraries NI**
- **Health & Social Care Board**
- **Department for Economy**
- **NICVA**

Additionally, partner organisations were observed 'in action' at Digital Assist Steering Groups and other fora and these interactions helped to form a view of priorities for action. These conversations and interactions provided crucial insights into the workings of the digital inclusion ecosystem.

The common themes and development areas began to be grouped either within the potential 'universal recommendations' of the Digital Resilience Foundation Programme or within proposed Pathfinder Projects.

Digital Culture

Vision for Online Services

7/8 respondents chose the following statement as best representing their organisation's vision for online services:

> *We are committed to offering as many of our services as possible online and see this as essential, but intend to continue offering services in parallel via other channels like the phone or face to face. Plans are in place to review our communications channels / keep channels under review in future.*

Digital Leadership

This was a key issue discussed by all respondents. A common theme was a perceived disconnect between organisations' leadership of digital transformation and how this is actively delivered by teams. The survey responses indicated this too. Several respondents said that while Senior Leaders and Managers understood the need to adapt to a digital world and the strategic importance of digital services, that their digital knowledge and skills to be able to lead change within organisations was more limited. Some answers indicated that trustees or elected members were less aware of the strategic relevance of digital service and digital inclusion.

Governance

The responses indicated that digital service and digital inclusion (where relevant) were largely embedded into organisational strategic documents. However, there was some sense of disconnect here, where again the translation of strategies or objectives was not necessarily felt to have resulted in effective action or change. One respondent said:

> *"There is a strong aversion among some senior management to the perceived high risk that they believe digital technology poses (particularly customer facing technology, like social media). This is due to a lack of understanding of the changing needs and expectations of [ ] citizens. If [the organisation] doesn't respond to these changing needs and expectations, then citizens will very likely become disengaged"*

It was expressed several times from different organisations that digital transformation could be hampered by internal governance arrangements, uncooperative departments or blocks within management structures.

Strategy and Planning

Respondents were asked rate how far along their organisation was in terms of planning for digital change (coming up with a strategy) and delivering a digital change programme or digital projects. They were asked this in relation to a range of strategic issues:

- **Digital Leadership**
- **Digital Transformation**
- **Digital First / Digital By Default**
- **Channel Shift**
- **Digital Inclusion**
- **Assisted Digital**

Aside from receiving very varied responses, we observed that terminology was a common issue across the board. It was not always clear that services understood or had a practical concept of terms such as Digital First or Digital By Default, more so with terms like Channel Shift and Assisted Digital.

We had several discussions about the differences between Digital Inclusion activity (which we would define as any support where someone is ultimately enabled to undertake an online/digital journey independently) and Assisted Digital, where it has been identified that a person will be unable to undertake that same online journey without support for the foreseeable future. Assisted Digital support might be in having a dedicated telephone number for use where people with visual, sight or physical impairment may speak to someone who can complete the online process for them.

We recommend that there is some energy put into defining these terms for digital inclusion stakeholders and helping organisations understand the potential benefits of delivering through different models.

Collaboration

There was a collective sense of a strong foundation of partnership working, collaboration and information sharing toward digital inclusion outcomes across Northern Ireland. However the respondents' scores were wide ranging with some identifying gaps internally in their organisations when it came to collaboration. As detailed above, sometimes the internal blocks were felt to be more problematic than working with external partners.

The digital inclusion or digital service delivery meetings or working groups named as active within the DMAs were:

- **Digital Assist Steering Group**
- **Digital Action Groups within Department of Finance**
- **Welfare Reform Working Group**
- **Age Friendly Technology & Tackling Loneliness & Isolation Amongst Older People**
- **DAERA Digital Engagement Group Board**

Digital Delivery

Digital Service – online availability and uptake

Responses were wide ranging and the questions proved difficult to answer. Representatives found it difficult to define what % of their service offer was available online and the relative % of uptake of those services. Documentation or information which might have defined this was not readily available.

Digital Transformation

Again, there were wide ranging responses to this question which attempted to ascertain how any digital change programme or projects were managed within the organisation. The results varied between completely ad hoc projects, which might seek to bring a new part of the service online or introduce a new Customer Records Management system (CRM), right through to organisations who had a significant amount of resource allocated to a central digital change programme and team - for example the Department of Finance Digital Transformation Service (DTS).

Digital Inclusion

Funding

Aside from the Digital Inclusion Team at Department of Finance and Supporting Communities, there appeared to be a lack of consistent and / or secure funding for digital inclusion activity in Northern Ireland. While investment in digital transformation at an internal organisational level appeared to be more widely supported (even in simple budgeting for mobile device equipment), dedicated finance for digital inclusion appeared to be less secure and have more perceived 'question marks' over its future security. This is in line with our experience across the UK, where digital inclusion funding is often 'hidden' within another agenda or funding stream such as Tackling Poverty or Financial Capability.

Research and Evidence

Various sources of research were mentioned relating to digital inclusion in Northern Ireland:

- **DTS research within Department of Finance**
- **NISRA annual Digital Skills Survey**
- **ONS Internet Access Survey**
- **OFCOM reports on network availability and uptake**
- **DAERA Business Intelligence Team data**
- **Age UK reports**
- **Money Advice Service**
- **POP NI feasibility study**

Where we were able to source data sets, research and evidence to support our understanding of the digital landscape in Northern Ireland, these are detailed within the Baseline 1 and 2 sections and related Appendices.

Staff Digital Skills

There were a wide range of responses in respect to questions around staff capability to provide basic digital skills support to customers or clients. This is aside from staff motivation or capacity – it was clear from verbal responses that confidence among some staff to answer basic digital questions varied greatly. While overall the scoring indicated that the majority of staff had good basic digital skills, few organisations had undertaken a specific audit of digital skills (25% of DMA responses) or were able to provide workforce skills data from other sources.

What was clear in the responses was a lower average (3.5/5) of organisations that felt that time and money had been invested to support their own staff with digital skills. A similar low average (3.63) resulted from a question about whether staff/volunteers were encouraged and empowered to support others with basic digital skills. This refers back to the questions about organisational culture and its recognition of the needs of not only digitally excluded customers but also a potentially digitally excluded workforce.

Triage, signposting and referral

There were wide ranging responses regarding this element of digital inclusion work and it was clear again that organisations perceived and delivered these activities in different ways. We have included a Glossary at the end of this report and for clarity here:

- **Triage** – a quick assessment of the basic digital skills needs of the person being served by the organisation. Usually undertaken by a worker at the point of contact, be it face to face, phone, or an online form. Triage indicates a level of assessment taking place which supports the worker to provide an appropriate response.
- **Signposting** – If the worker or organisation is unable to address or meet the person's digital skills needs at point of contact, the person may be signposted to a service which can. An example of this may be a person paying rent at a housing office, where the worker notices a need for digital skills support through a Triage process and then Signposts that person to a Library where they can receive tailored support.
- **Referral** – This indicated where the worker extends their offer of support to directly refer a person to another service. Different to signposting, this would involve the initial worker / organisation contacting the secondary support service on the person's behalf. This is sometimes referred to as a 'warm handshake'!

Our findings indicated that while some organisations had specific digital skills triage in place for their clients (Supporting Communities), others relied on ad hoc systems where staff may or may not ask the right questions of their clients, to inform any kind of decision.

Further, the signposting of customers to other providers appeared less well supported. While there is some information about digital skills support services online (NI Direct, POP NI, Libraries NI, Online Centres Network), not all of the

information was up to date at the time of our research and not all information was hosted on all sites. This gave the impression of there being a siloed approach to supporting citizens, where the response from one organisation was not matched by all in terms of supporting digital skills development.

Our survey results indicated that overall customer facing staff scored:

- **High** on Willingness and **Medium** on Capacity to act as digital skills **signposters**
- **Medium** on both Willingness and Capacity to act as **Digital Champions**
- **Medium** on Willingness and **Low** on Capacity to act as **Assisted Digital support**

However, owing to the number of responses in this section the statistical significance of the results is questionable. Answers were very specific to the individual organisation – some of whom were commissioned to provide Digital Champion support specifically and others that had a much wider remit or did not have digital inclusion as a central strategic objective.

Digital Infrastructure

- Organisations had a reasonable grasp of their own **cyber resilience** and **data governance** duties and capabilities
- Some organisations do not yet have capacity or skills to be able to analyse and **harness the data** in order to inform decisions.

Organisation Surveys

Surveys were also sent out to gauge the current level of readiness and engagement by a range of organisations and stakeholders across Northern Ireland. In the context of this research we are looking for organisations that can become part of the digital inclusion strategy.

In Northern Ireland 48 responses were received, with the majority of respondents were from charity, community and voluntary sector organisations, or social enterprises.

The organisations included Advice NI, Citizens Advice, The Consumer Council and a range of disability groups. These organisations have a wide reach across the area.They provide training, access and support to both rural communities and key demographic groups across Northern Ireland.

- 54.5% of respondents said that they would rate their organisations understanding of the role of technology as "excellent" or "very good."
- 80% of respondents advised that they offer free wifi for clients to use but some organisations highlighted that their clients lacked competence when it came to using digital skills or required assistance (46.5%).
- 56.8% of organisations stated that their staff/volunteers frequently help people to complete forms and paperwork.

Table 7: Answers to survey question: "Do you currently provide any technology support to the client group you work with?"*

Answer Choice		Response Percent	Response Total
1	Online courses and materials	22.5%	9
2	A helpdesk to phone	20.0%	8
3	Face to face training courses	40.0%	16
4	Drop-in support sessions	22.5%	9
5	Help with equipment	22.5%	15
6	Help with connectivity (broadband, wireless internet etc)	15.0%	6
7	Signposting to IT support/training elsewhere	50.0%	20
8	None	27.5%	11
9	Other (please specify):	17.5%	7

***Answered - 40, skipped - 8**

- 47.7% of organisations rated their organisation's use of technology in delivering efficient online services as being above average, very good or excellent.
- When asked if limited internet access and mobile coverage affected their organisation's use of the internet and 63.6% answered "to some extent" and "yes it has been an issue."

One respondent commented:

"Some of our clients reside or operate in rural areas where internet speeds are poor and where the mobile coverage is inadequate or non-existent. It is therefore challenging to provide a positive online training and learning experience."

Another issue raised was the lack of resources for those clients with visual impairments.

There appears to be a wiliness to help clients with their digital skills and there are some good opportunities to develop Digital Champions across these organisations and this would be a useful way to reach some communities.

Front Line Staff Skills

The objective of the Front Line staff skills survey was to gain knowledge of the ability of personnel in regular contact with the residents of the Northern Ireland to act as advocates for digital skills and to provide support. These people could reach many of those at risk of digital exclusion and are could prove critical in achieving both digital inclusion and channel shift.

There were 62 front-line staff surveys completed, with most (twelve) completed by staff at the Consumer Council. Eleven were completed by staff from Citizens Advice and 9 from 5 organisations working with disabled people (Figure 1). Together surveys of these three types accounted for just over half of all surveys, samples may not be representative of all staff within a department.

Survey responses by Organisation / Organisation Type

- Most front-line staff respondents regularly used each of the five basic digital skills (53.2%) and the vast majority were confident internet users (93.5%).
- Nearly all (98.1%) have access to the internet at home and 87.1% were acting as informal digital champions at the moment (although, 40% were only able to help people "a little" or "sometimes").
- Around half (54.1%) were interested in becoming a formal digital champion.
- However, 61.7% said they felt they needed "additional IT or digital skills training".

Answers to survey question: "Overall, how confident are you as an internet user?"

- Around a fifth of staff stated they were already helping members of the public with basic digital skills (22.6%) and 54.2% were very or quite satisfied with this.
- Over a third of staff (35.6%) currently show people how to do things there and then as part of their job, and nearly 90% said it would be very or quite helpful to have access to an information and signposting tool to help people get digital skills training and internet access.

It's worth bearing in mind that those who don't have the skills are less likely to have completed the survey and those with higher levels of digital skills are more likely to have engaged with the survey.

The responses around online service use were of interest. With a mixed picture of some online services being available and promoted internally, whilst others were not available or not promoted as a matter of course (54.2%). Just under half (44%) of respondents answered that they made referrals, predominantly to Citizens Advice, and Libraries.

Digital Inclusion: Assets & Development Areas

Libraries Services

The Northern Ireland Libraries service provides a 'Got IT?' course divided into three introductory sessions (computers, the internet, email) via its network of 98 libraries (there are also 18 mobile libraries). Each session lasts between 45 minutes and an hour.

Free WIFI is offered in all libraries to library members. Assistance and equipment is available to help with basic digital skills and access the free WIFI service is also available, although resources differ between different library sites.

While availability of free WIFI is of benefit, its use requires some basic digital skills in order to be able to access it. As well as having and remembering your membership number and PIN, users with their own devices may need to download and install a 'security certificate' to ease their browsing experience. If they wish to book a computer to use there is an online booking system, or alternatively sessions can be booked face to face or by phone.

The UK Online Centres Network lists 101 places in Northern Ireland where there is Free Internet Access and / or Basic Support available. These include the 98 Libraries, Ignite IT and Lurgan Salvation Army. The Libraries are not listed on this site as having any basic support available, whereas the Libraries NI website indicates that the Got IT courses could be available at any of their sites and a full monthly schedule is available on a downloadable PDF. For example, April 2017 had 38 computer help sessions listed in 32 of the Libraries.

There was no link found between the Libraries NI website and other digital skills support found on the Go ON NI website or Super Connected Communities information on the Belfast City Council website. The Go ON NI website links to the UK Online Centres website for people to find Free Internet Access, but not back to the Libraries website, where their free access resource is listed. The Go ON NI website does list the same libraries support sessions available in April as the Libraries NI website, however this means there is some double working happening in having these listings available online.

These findings indicate that there is room for improvement in the joining up of information resources, signposting resources and websites to ensure that the public, and importantly staff, are able to refer effectively and confidently to other help that is available.

Connectivity for Small Business / SMEs

In considering the issues for small businesses and SMEs, we looked at the connectivity issues across NI and cross referenced these with issues such as rurality. These are evidenced elsewhere in the report, however we also received some qualitative feedback around business and online services.

OFCOM state that there is no digital divide between the UK and NI in terms of connectivity and that availability of superfast broadband is comparable between the two. Additionally, broadband uptake has reportedly increased since 2012.

However, while 9 out of 10 adults go online every day in NI, we also know that many lack at least one of the five basic digital skills and a significant number lack more. Many of these individuals are also running their own businesses (this was evidenced through Experian Mosaic profiling) and will struggle to increase their profits or access essential digital services if they lack confidence in these areas.

While the Universal Service Obligation (giving everyone a right to broadband on reasonable request) will create a baseline in terms of the availability of superfast for business and personal use, the service will be demand led rather than proactively rolled out and there are still likely to be areas in NI which prove challenging to meet the service level.

Even once current roll out plans come to conclusion in December the Department for Economy estimates there will still be 100-120k premises that will not be able to access a superfast service. It's possible that 2-3% of premises in NI may have to access satellite internet technology just to achieve a 2mbps service. Furthermore, as internet providers improve and increase their top level offers for businesses that can afford it in locations where it can be offered, the 'capability divide' between those who are able to reach a 100+ mbps service and those who will struggle to access even 10 mbps, may increase further. Some households may have to make personal investment in order to access the internet, even if the

service is available.

Businesses in NI were referred to the UK Government Better Broadband Scheme where appropriate (for example Farmers and B&Bs), and qualifying organisations could receive subsidies worth up to £400 to get access to satellite internet services. However, while the referral rate was relatively high with around 1500 applications, only 300-400 have so far completed the process and taken up the offer (20-27% of initial applicants). It would be worth exploring what some of the reasons may be for slow or low take up.

Toward the end of our research period, the UK Government launched its UK Digital Strategy – there is a recommendation that the partnership identifies future funding opportunities together in NI for digital inclusion and this strategy should provide a high level link and steer to digital business and digital skills of businesses and SMEs in Northern Ireland as the programme moves forward.

Community & Voluntary Sector Support

NICVA (Northern Ireland Council for Voluntary Action)

NICVA is a membership and representative umbrella body for the voluntary and community sector in Northern Ireland.

> "With around a thousand members - that range from household name charities to grass roots community groups - we lobby and campaign to advance the interests of the people and communities that our members support. We offer a wide range of practical services, products and support to our members to help them do what they do best - find innovative solutions for social challenges."

NICVA provide a range of advice and support services to the third sector in NI and are a key partner in the digital inclusion ecosystem owing to their wide reach and collaborative networks, as well as hosting a range of online resources. These include:

- **NICVA website** which hosts a wide range of third sector advice resources
- **POPni.net website** which is a web portal for older people in Northern Ireland. Among other resources, POP NI lists events in different areas and these include digital inclusion activities organised and supported by through GO ON NI. There are also resources available on this site such as the Free IT Toolkit developed by the Digital Age project (Linking Generations/Beth Johnson Foundation)
- **DetailData website** which hosts NI based data sets of useful information for the public and third sector. The DetailData Portal is a publicly-accessible data catalogue for open data from a range of sectors in Northern Ireland. Users can access, view and download data from the datasets available on the Portal. For example, hosted data and evidence covers subjects such as Agriculture, Deprivation, Energy and Environment, Economy & Business, Health and Social Care, Labour Market and Education and Skills.
- **Community.ni website** which connects people and opportunities across NI, including jobs, events, news, products and services targeted at third sector

NICVA have the potential to promote digital inclusion activity and also host digital inclusion data sets on the Portal website. We also received feedback that a key area of concern for the third sector in Northern Ireland was data/cyber security; with the upcoming General Data Protection Regulation (GDPR) coming into force in April 2018, charities and voluntary organisations need to make preparations and changes to data systems in order to be compliant and this is considered to be a key risk area. There is a link between public basic digital skills needs and the needs of staff in delivering online service and knowing their duties under GDPR – staff need basic digital skills as well as a level of digital literacy that will likely need to surpass that of the service users.

Digital Skills for SMEs and Third Sector

In 2016 there were nearly 70,000 enterprises in Northern Ireland, the vast majority of which had fewer than 9 employees (89.2%). Nearly all enterprises had fewer than 50 employees

(98.2%, Table 8).

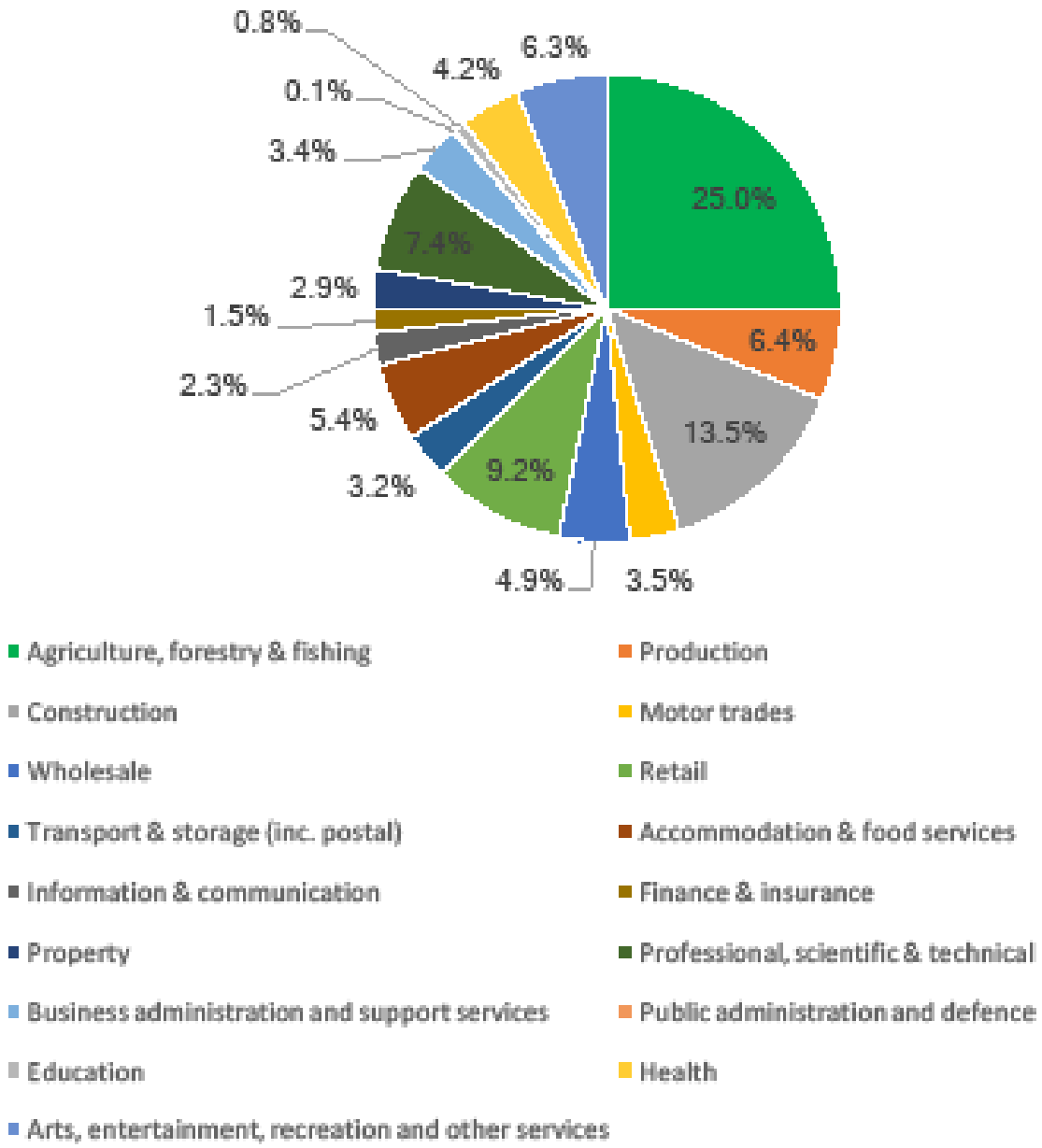
Table 8: Number and percentage of enterprises by size, Northern Ireland and UK (NOMIS, 2016)

	Northern Ireland (#)	Northern Ireland (%)	United Kingdom (#)	United Kingdom (%)
Micro (0 to 9)	61,615	89.2	2,277,480	89.2
Small (10 to 49)	6,225	9	227,450	8.9
Medium (50 to 249)	1,055	1.5	39,890	1.6
Large (250+)	200	0.3	9,690	0.4
Total	69,095	-	2,554,510	

The largest sector is Agriculture, Forestry and Fishing which makes up 25% of all enterprises. While the largest number of enterprises is based in the Belfast local authority area (9,005), four council areas contain comparably high numbers of enterprises: Mid Ulster (7,915); Fermanagh and Omagh (7,175); Armagh, Banbridge and Craigavon (7,720); and Newry, Mourne and Down (7,500). Each of these four areas have high numbers of Agricultural enterprises (see the Digital skills to support tourism and farm diversification Pathfinder).

Figure 29 shows the proportion of enterprises by sector: after Agriculture, Forestry and Fishery (16,795 enterprises; 25% of all enterprises), the next most numerous sector is Construction (9,095; 13.5%), followed by Retail (5,940; 9.2%); Professional, Scientific and Technical (4,840; 7.4%) and Arts, entertainment, recreation and other services (4,135; 6.3%).

Figure 29: Share of total enterprises by sector (ONS – VAT and or PAYE Registered Businesses Operating in Northern Ireland, March 2014)



In 185 Small Areas, people employed on their own account or employing others in a small enterprise, account for 20% or more of the local population aged 16-74, and in 36 Small Areas there are 100 or more people working in these ways. There is an uneven distribution of small employers and self-employed people across NI that are not necessarily well-served by Public WiFi Hotspots. Figures 30 and 31 show the concentrations of small employers and areas where these overlap with areas with low digital skills.

Figure 30: Small employers and people working on their own account, by SA (Censes, 2011) VS Households at risk of Digital Exclusion (COL/Experian)

Small employers and people working on their own account, by SA (Census, 2011),
VS Households at risk of Digital Exclusion (COL/Experian)

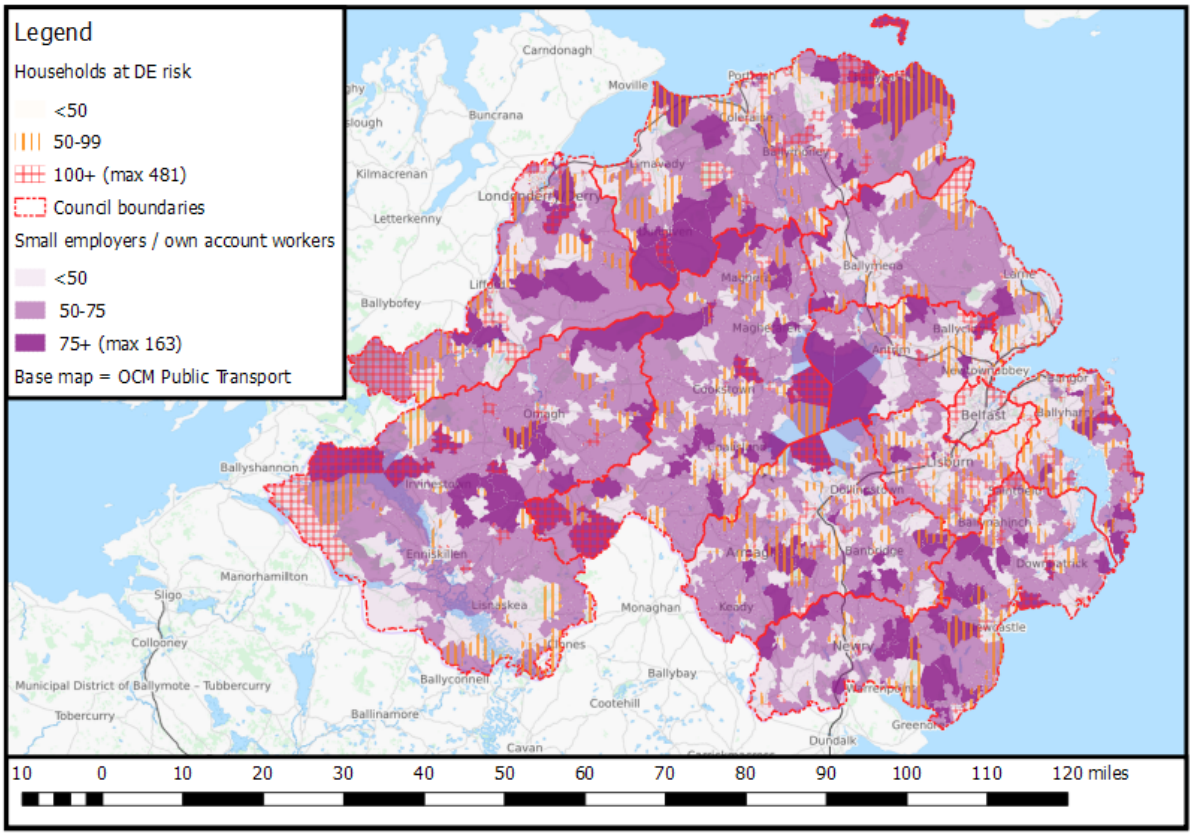
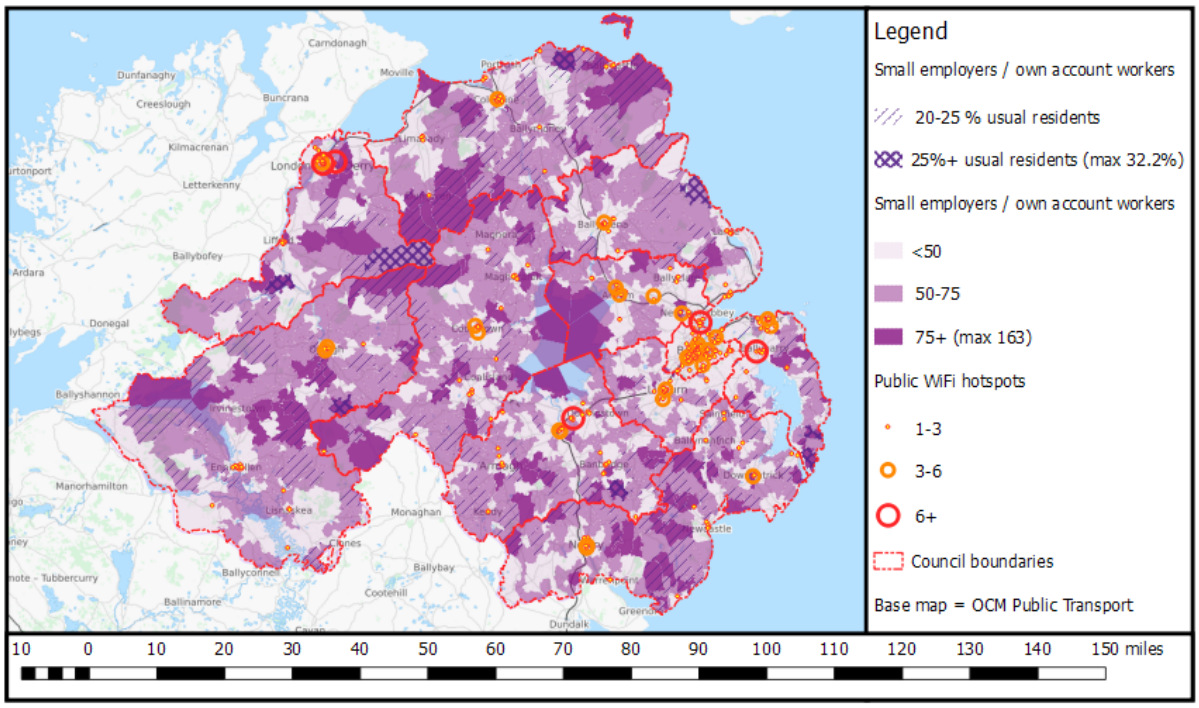


Figure 31: Small employers and people working on their own account, by SA (Censes, 2011) VS Households at risk of Digital Exclusion (COL/Experian)

Small employers and people working on their own account, number and over 20% usual residents (Census, 2011),
VS Public WiFi Hotspots (OFCOM)



Conclusion

Northern Ireland has clearly come a long way in relation to how many citizens are online and much progress has been made, however there are still many people in the province who are not gaining the full benefit from the Internet - either because they are complete non-users, or maybe because they are only using the internet in a limited way and therefore not getting the full economic and social benefits of being online.

These non-users may also possibly be disadvantaged and at risk of exclusion in other ways – for example people with poor health or disabilities, low literacy and numeracy skills and those who left school at 16 or under may be at risk of digital exclusion but the underlying situation may be more complex – digitally excluded citizens may also be at risk of financial exclusion and have less money available, have fewer opportunities to find work, and less access to information that might make their lives better such as health information.

This report shows that some more targeted interventions with focused partnership and collaboration could open up a whole world of knowledge and opportunities for certain sections of our society. Projects and initiatives which increase digital skills and capacity will give people digital confidence, capability and safety, and open up new ways of delivering public services.

We look forward to working further with relevant partners in Northern Ireland to explore how they may best use this report to pool resources to deliver focused and targeted digital inclusion pathfinder initiatives. In doing so it is important that interventions make a real and meaningful difference to those people at risk of exclusion and the baseline data presented in this report will support decision making, and any subsequent business cases and can also be used to develop an Evaluation Strategy for a Digital Resilience Foundation Programme of work.

APPENDIX 1: METHODOLOGY DETAIL

The Baseline Evaluation was split into several work streams. All were intended to either produce new insight from fresh data regarding digital inclusion or to collate existing data into a single place, so that it could be reviewed afresh, potentially with new insights being identified in the process.

- **Baseline 1** deals with findings from data, research and analysis that Citizens Online have undertaken. It contains statistical findings, maps and target demographic populations. This section could also be understood as 'what we found'.
- **Baseline 2** deals with findings from surveys undertaken with partner organisations and staff in Northern Ireland. It contains statistical findings and qualitative feedback. This section could also be understood as 'what you told us'.

Baseline 1: Data Mapping:

In our experience detailed demographic profiling and mapping of populations that are likely to be digitally excluded is critical to arriving at an effective digital inclusion strategy. Reaching people at risk of exclusion requires knowledge about where they are, what they need, and insight into their preferences and behaviours. It is also necessary to know what activities are already happening in the area, where 'assets' such as libraries and community centres are and which partners are doing what. Our "baseline" process is a way of gathering this information so that local partnerships can make evidence-based decisions regarding how they can best use the available resources to get the desired outcomes.

We utilise both open source and proprietary data. Data has been analysed at the Local Government District, Super Output Area, Ward and Small Area administrative/statistical units to identify potential project areas and understand variation across NI. Core datasets include the 2011 Census, 2014 Agricultural Census, and Index of Multiple Deprivation (and its individual domains, including Skills and Proximity to Services in particular).

In order to identify populations more likely to be at risk of digital exclusion we explore data on population age profile, Housing Benefit Claimants (a proxy for low income), Pension Credit (a proxy for age and low income), Employment Support Allowance (a proxy for disability and low income), and other benefits at small geographic areas. In addition, we use data from the Experian Mosaic market segmentation tool to identify concentrations of households allocated to Experian Mosaic Types that our analysis indicates are less likely to be regular users of the internet and digital government services.

Experian's Mosaic tool provides us with additional insight into the attitudes, preferences and behaviours of people likely to be at risk of digital exclusion, including views about exercise, channel preferences (telling us about the effectiveness of Direct Mail, for instance), and the priorities of any existing online activity. Using this information, we can develop appropriate marketing materials and workshops using different messages and emphasising different aspects of digital skills in different areas, maximising the engagement of people who have been digitally excluded.

Finally, we have also begun to collect and map the locations of venues where beneficial interactions with digitally excluded people can take place (libraries, Jobs and Benefit Offices, community centres, GP surgeries and NIHE properties). Layered maps using QGIS can help us to understand an ecosystem of services, training providers, hubs of activity, and IT/internet and public transport access points. Some locations of previous training have also been added, and should further work continue, the locations of Digital Champions and learners can be added as layers to these maps to monitor effectiveness of marketing, social impact, and gaps in provision.

Baseline 2: Surveys:

The different types of online survey we used allowed various strata of the digital inclusion picture to be layered together. These three layers (Digital Maturity Assessments (DMAs), Organisational Surveys and Staff Surveys) were wrapped around with our insights gleaned from engaging with organisations through telephone interviews, meetings, phone calls and emails. The organisational and staff surveys were available online from January 17 through to the end of February 17. The DMAs were originally sent out in Word format for organisations to complete. These were transferred onto the online system by Citizens Online when this became available in February.

DMAs and Telephone Interviews

By far the most intensive form of survey was our Digital Maturity Assessment. At 50 questions, covering Digital Culture, Digital Inclusion, Digital Service Delivery and Digital Infrastructure, this presented an opportunity for organisations to reflect on how far along their organisation was toward digital service delivery and / or a state of readiness for providing an accessible service for digitally excluded people. None of the organisations submitted a DMA without support.

While rating some responses or statement out of 5 on a 'maturity scale' could provide some quantitative data for analysis, these 'deep dive' conversations were designed to provide the best qualitative data about the NI digital ecosystem, through direct dialogue method with organisational representatives.

To support such a complex survey, their completion was undertaken by Citizens Online through a supported conference call where sometimes several representatives from an organisation could contribute to the answers. A particular challenge was in finding the right people within some of the larger organisations to talk to and represent the organisation as a whole. For example our conversation with the Department of Finance was represented by the Head of Digital Inclusion, however we asked questions about the DTS (Digital Transformation Service), NI Direct and the Department of Finance as a whole. Summing up the 'Digital Culture' from one person's perspective was not always possible.

We estimated that a sample size of 16 would achieve an additional level of statistical significance from the DMAs. This was based on there being approximately 50 organisations or departments in the Digital Assist Steering Group circulation list.

However, not every organisation was able to complete a full DMA process. In some cases, it proved more effective to undertake a phone interview with an organisational representative or team, rather than complete a full assessment. We were still able to ask key questions about digital inclusion, future delivery plans and collaboration with partners around Northern Ireland.

In total we undertook 13 DMA and telephone interviews.

Organisational Surveys

The organisational survey enabled us to get feedback from a broad range of stakeholders across Northern Ireland they asked some of the similar questions to the DMA while remaining a 'lighter' version, much easier to access and complete without support from Citizens Online

Staff Surveys

The anonymous staff survey enabled us to get a broad overview of the current level of digital skills within a customer facing workforce. It also means we importantly get a sense of how much support staff might receive to be able to help others with digital skills, or the capacity that they have within the normal working time for digital skills work, as well as their willingness and ability to do this.

A combination of desk research and stakeholder input provided a lengthy list of policies, strategies and action plans to review, of relevance to the digital skills agenda. This enables us to temperature check current activity and also to make links to activities that could enable the mainstreaming of digital skills work, if they are brought into alignment their willingness and ability to do this.

Table A1: Policy and strategy documents reviewed

Document Name	Owner/ Stakeholder, Date
Financial Inclusion Strategy 2016-19	NI Housing Executive
NI Economic Strategy: 3rd annual monitoring report Feb 2016	NI Executive
NI Assembly: Digital First Strategy	NI Executive
A survey of Northern Ireland's third sector and its potential to become more enterprise driven Final report (PWC)	PWC for Dept. Trade and Investment and Dept Social Development May 2013
Internet/broadband provision in rural Northern Ireland	NI Assembly briefing note Oct 2016
Carer's Allowance Digital Service (CADS)	
Connected Nations 2016: Northern Ireland	Ofcom Dec 2016
Connected Nations 2016: UK	Ofcom 2016
Delivering Growth An update on actions to support the NI agri-food industry	Agri food strategy board
Digital NI 2020	Invest NI and EU
e-Health and care Strategy NI	Health and Social Care Board March 2016
M: DEPARTMENT OF ENTERPRISE TRADE AND INVESTMENT (DETI) SOCIAL ENTERPRISE NI EVALUATION JANUARY 2016	DETI
ESS 2020 (Enterprise Shared Services) – A framework for shared services	NICS Jul 2012
Social Security Agency The impact of Summer Budget 2015	
P: Making Life Better: A WHOLE SYSTEM STRATEGIC FRAME-WORK FOR PUBLIC HEALTH	June 2014
Q: 'Enabling Success' Supporting the transition from economic inactivity to employment: A strategy to tackle economic inactivity in Northern Ireland	April 2015
STRATEGIC NEEDS ASSESSMENT FOR THE SUPPORTING PEOPLE PROGRAMME: A POLICY STATEMENT	Jan 2017
Carer's Allowance Digital Service - A Quick Guide for Advisors	July 2016
Citizen contact strategy screening guide	March 2014
Advice NI Evaluation of Older People's Projects	June 2016
Work and the welfare system: a survey of benefits and tax credits recipients in Northern Ireland. Oct 2013 Dept for social development	Oct 2013
Taking Control A Financial Capability Strategy for Northern Ireland	March 2015

Does Northern Ireland need a Tourism strategy?	June 2016
Economy 2030 A consultation on an Industrial Strategy for Northern Ireland	Jan 2017
United Kingdom - Rural Development Programme (Regional) - Northern Ireland	2014-2020 last modified jan 2017
LIFETIME OPPORTUNITIES MONITORING FRAMEWORK	2015
NI innovation strategy	
Open Data Strategy	2015
Smarter Cities Belfast	2013
Welfare changes presentation to housing sector	Sept 2016
Tackling Rural Poverty and Social Isolation – A New Framework	Mar 2016
DRAFT PROGRAMME FOR GOVERNMENT FRAMEWORK	May 2016
PFG consultation document	
Digital Inclusion Report	2016
NIDirect DAERA Engagement Group TOR	2017
DAERA-Online-Comms-Committee-Report	2016

APPENDIX 2: SUPPORTING THE BUSINESS CASE FOR DIGITAL INCLUSION

This section contains some headline figures which can be used to support the case for digital inclusion activity. Some are provided from third party sources. They may individually or collectively be useful to support business planning or the creation of business cases for digital inclusion activity. They include outputs from previous projects which take a partnership approach and use Digital Champions (employees or volunteers trained to provide assistance with basic digital skills), as a central method for digital inclusion delivery.

Northern Ireland – The Scale of the Issue

32.2% of the Northern Ireland population aged 16-65 have low or no digital skills. That's over 378,000 people...

At the level of providing basic digital skills to people without them across Northern Ireland, organised Digital Inclusion projects have a huge potential for scale and impact. Even if we consider that not everyone will be willing or able to improve their digital skills, the numbers remain significant - especially if we consider the social and financial benefits to each person and to communities as a whole, which can be achieved.

The UK is a world leader in terms of willingness to buy online and transact using mobile devices as well as willingness to embrace new ways of accessing entertainment online. This has led to major advantages for those who are willing and able to go online in terms of lower cost and greater choice. Digital technology has also thrown a lifeline to many geographically isolated communities and the businesses that makes them viable, by allowing remote working, providing access to new markets for their businesses and bringing services, including health and education, to these communities digitally. Conversely those unwilling or unable to go online are facing ever increasing levels of disadvantage. Individuals and businesses unable to exploit digital technology face an increasingly uneven playing field. This difference in opportunity is resulting in a 'polarisation' of the population; those who can exploit digital technology will be more secure, but existing social and economic deprivation may be deepened for individuals and communities that cannot.

Reducing the cost to serve

The cost on an online transaction could be in the region of 5% of the cost of a face to face one

One of the reasons that so many businesses and government services are being delivered digitally is that it can offer a level of service quality that is equivalent or better than previous delivery models at significantly lower cost. Furthermore, digital marketing of services and automatically linking services into 'bundles' to match individual customer needs offers a cheaper and more effective means of engaging with service users.

In the private sector the savings and improvements are often the difference between a business being competitive and being unviable. Although the effect will vary across business sectors, some sectors important to the NI rural economy are likely to be particularly sensitive. The hospitality industry is increasingly reliant in the internet to promote services, take bookings and create a positive social media presence for individual businesses and whole geographic regions. Farmers and small artisan producers are also increasingly reliant on the internet to promote and sell goods as well as to deal with issues such as compliance with regulations, paying taxes and gaining licences etc. In the public sector the savings can offer a means of maintaining the breadth of services and service quality in a climate of falling budgets.

Extensive work has been done on estimating the potential savings available from channel shift. The figures given in Table 1 have been used widely in central and local government in the UK. Analysis has shown these figures to be credible estimates, but that savings are entirely dependent on the ability to achieve channel shift to digital channels in specific services.[6] This implies that if targeted and supported correctly the savings are real and significant, but that investment in digital will not automatically yield benefits.[7]

6 Channel Shift: Realising the Benefits, White Paper, Dr Gerald Power 2012.

7. The case for a systemic approach to digital skills Dr Gail Bradbrook (Citizens Online) Dr Gerald Power (Trapeze Transformation), White Paper 2014.

Table A2. Estimated average channel costs

Source	Face to Face	Telephone	Post	IVR[8]	Online
PWC13[9]	£10.53p	£3.39p	£12.10p	NA	£0.08p
SOCITM14[10]	£14.00p	£5.00	NA	£0.20p	£0.37p

Analysis has shown that most local authorities, social housing providers and central government services have the potential to realise very significant savings from channel shift. These vary between the hundreds of thousands to the millions of pounds per year based on delivering the same services with fewer people and a smaller estates footprint.

Local Government Services

Using detailed data gathered from English, Scottish and Welsh unitary local authorities it is possible to map the typical volumes of calls and face to face visits a local authority receives and their purpose. Using 2016 contact figures the average cost of face to face contact for a unitary local authority has been estimated at around **£30 per household per year.**[11] The Figure below shows the relative amount of time spent each year engaging with residents in face to face contact for specific service areas. From this it can be seen that a small number of services act as the driver for the majority of time and cost expended on face to face contact. It also shows that Benefits and issues relating to Council Tax, Housing or Housing Benefit drive most of this face to face contact.

8. Interactive Voice Response (IVR).

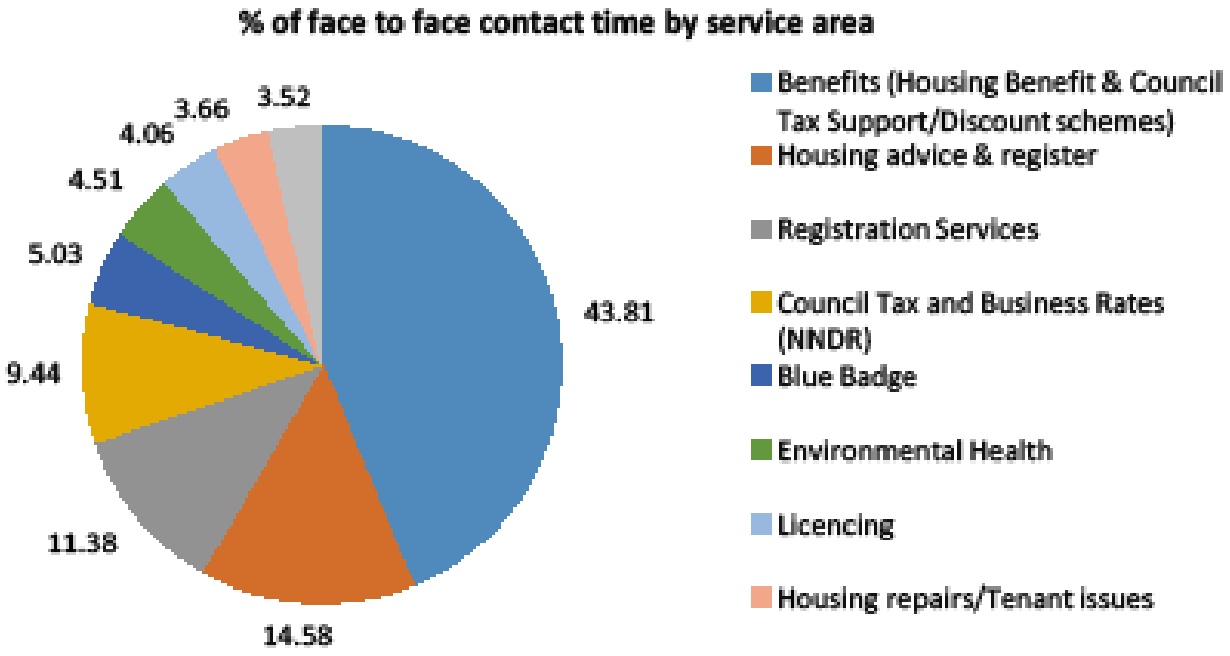
9. The Economic Case for Digital Inclusion, Price Waterhouse Coopers, Oct 2009.

10. Local Government Information Unit, going where the eyeballs are, connecting councils with their communities.

11. Based on data from 2016 CIPFA benchmarking club.

Separate research implies that the users of these services are significantly more likely than the general population to lack digital skills and the confidence to engage or transact online. This is primarily due to the correlation between low income, low educational achievement, long term benefits dependency and low digital skills. There is also a linkage between benefits dependency and low digital skills among those over fifty years of age and out of employment but below pension age. Combining the data on purpose of visit and total cost it is clear that relatively modest shifts to digital channels could deliver significant savings. Similarly changing skills and behaviours among groups that are heaviest service users clearly has the potential to benefit these individuals. Furthermore freeing up the time of front line staff by automating very routine work allows them to focus on work that adds more value.

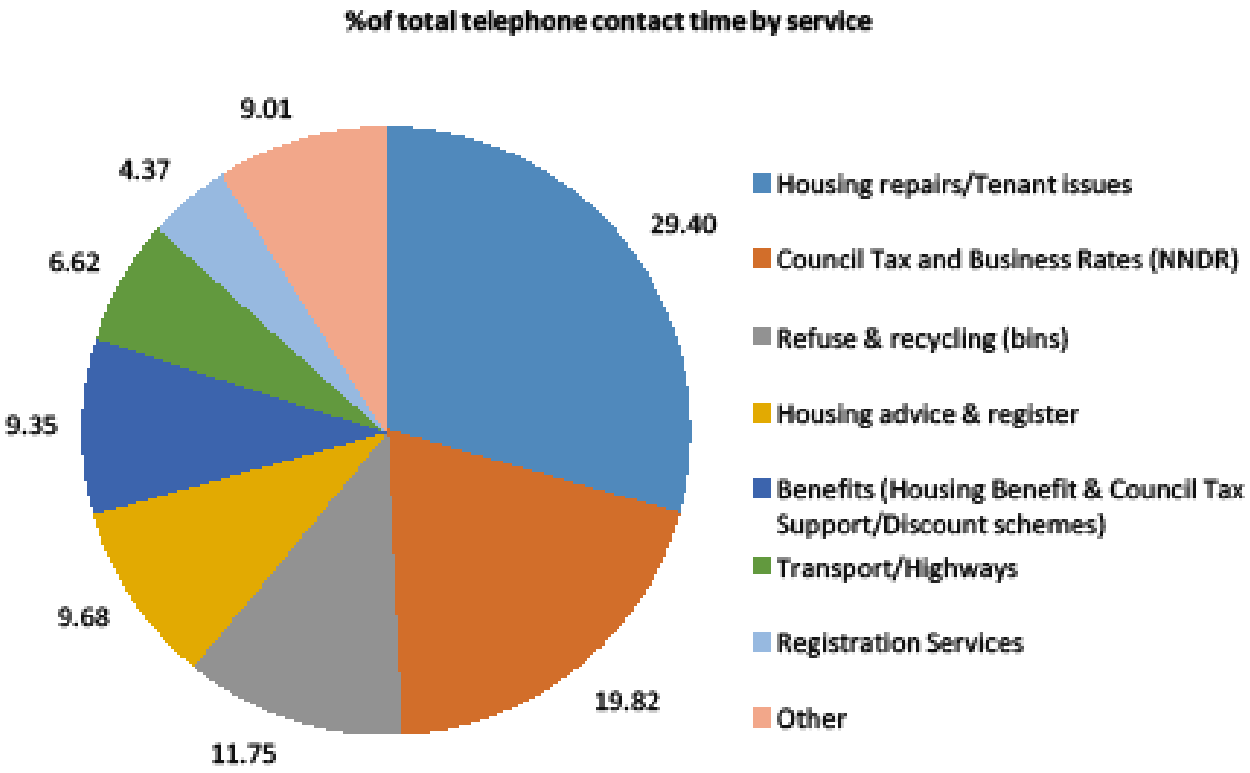
Figure A1: Face to Face contact Unitary Authorities



Similar data for telephone contact is shown in the Figure below and also demonstrates that the majority of telephone contact is driven by a relatively small number of service areas and again they mostly involve housing, benefits and council tax. Estimates imply a cost of around £12 per household per year for telephone contact based on call centre calls, actual costs are likely to be higher given the number of calls going to back office teams in many service areas. As with face to face contact the overlap between services driving contact and those at greatest risk of digital exclusion is clear. The link being low income and higher reliance on support and services from local and central government as well as higher reliance on social housing.

Given the way that government services are delivered in NI and how social housing is managed the contact shown in Figures above being handled by English, Scottish and Welsh unitary councils would be distributed between NI local authorities, NI Direct and social housing providers. The overall volumes seen elsewhere in the UK are probably a good indicator of the volumes being handled in NI. Similarly the demographic profile of the heaviest users of services are likely to be similar as well as the potential for channel shift. As previously discussed, for those who already have the necessary digital skills and confidence, this this will probably require better digital service design and active promotion of digital self-service. It also implies there is a strong savings and benefits based case for investing in digital inclusion work to help heavy services users that are currently digitally excluded get online. Similarly it implies a clear case for a cooperation between service providers and a joined up or holistic approach to inclusion.[7]

Figure A2: Telephone contact Unitary Authorities



Investment in digital inclusion should yield significant cash and non-cash benefits and will fall into two broad categories:

i) **Quick wins from better digital propositions and active promotion of digital.**

These are savings that can be delivered by encouraging digitally confident customers and service users already using digital channels for other private and public services to move to your digital self-service options. It is aimed at the 'majority that can'. Typically this needs to be achieved through better digital service design and better promotion of these options so that customers elect to use them. This applies particularly to public sector, third sector, SMEs and micro-businesses. In some cases this means removing options such as paper forms or face to face to nudge people capable of using the digital option to it. [12]

ii) Medium and long term gains through skills development and behaviour change.

This is aimed at the large minority that either can't or won't currently transact and interact online. These benefits are linked to longer term behaviour change in individuals who are heavier users of services but lack the basic skills and confidence to access them online. They are also linked to more holistic and joined up service propositions with partners working together to achieve digital inclusion and channel shift. While achieving these gains is more challenging the benefits to the individuals and service providers are far greater. These are the gains linked to digital inclusion work including developing basic skills across the population and targeting specific service users. This includes helping sole traders and micro-businesses to gain the skills they need to survive and thrive.

12. In this case 'elective' implies use a face to face by someone capable of using another channel, but who chooses face to face out of habbit or as it appears to offer some other advantage. Those not capable would be provided with an approriate alternative .

Health

The cost of missed appointments is about £108 per appointment and digital health can support patient motivation in personal health responsibility

The potential value of e-healthcare in NI has already been identified by the NI Heath and Social Care board in its 2016 report. [13] The Table below outlines the principle areas for benefits and savings. Figures have suggested that more than twelve million GP appointments are missed each year in the UK, costing in excess of £162 million per year. A further 6.9 million outpatient hospital appointments are missed each year in the UK, costing an average of £108 per appointment in 2012/13. It has also been shown that use of the right technology can reduce this.[14] Digital technology is also likely to have a key role in 'patient activation' or motivating individuals to take responsibility for managing their own health particularly in regard to chronic long term conditions.[15] Such 'activation' has been shown to be a key indicator of positive patient outcomes and is a key element of the future NHS strategy. It also supports the case for a joined up strategy across multiple layers of healthcare and multiple service providers which has already been identified as desirable in NI.[16]

Table A3: Potential benefits of digital technology in healthcare delivery

Type of benefit	Examples
Cost savings	• Reduction in missed appointments • Avoidance of intensive support for patients not receiving early diagnosis • Reduction of prescriptions • Elimination of paper/stationery costs
Productivity	• Quality of care and patient safety optimised treatment • Clinician confidence (via decision support) • Patient confidence and assurance • Carer confidence and assurance
Qualitative benefits	• Improved patient experience • Improved reputation of the organisation and patient confidence in the services provided • Improved communication between health organisations

13. e-Health and care Stretegy NI, Health and Social Care Board, March 2016.

14. NHS England using technology to beat cost of missed appointments, March 2014.

15. Supporting people to manage their health: An introduction to patient activation. The Kings Fund. May 2014.

16. Making Life Better: A WHOLE SYSTEM STRATEGIC FRAMEWORK FOR PUBLIC HEALTH, June 2014.

Employment and employability

'To meet the rising job demands almost 90% of new jobs will require digital skills with 72% of employers unwilling to interview candidates without basic computing skills.

To meet this estimate UK will need 7,45,000 additional workers with digital skills failing which these jobs may be outsourced or given to foreign workers.

This digital skills gap is costing the UK economy an estimated £63 billion a year in lost additional GDP.' [17]

Public and private sector organisations increasingly need to recruit individuals with basic digital skills in order to run their businesses and deliver their services as very boldly stated in the above quotes from the House of Commons Science and technology Committee. Work by the Rowntree Foundation and Nominet Trust has also identified that digital technology has re-shaped the jobs market both in terms of how people are recruited and in terms of basic essential skills for employment. Use of digital channels is effectively replacing print media or other non-digital channels for advertising jobs and application processes are typically managed online. Where jobs are advertised in print as well as online, posts may be filled before a candidate can reply to the print advert.[18] There is also increasing anecdotal evidence of a need for digital skills in unskilled manual jobs and low skills jobs. This includes areas such as warehouse, factory, delivery, construction and retail sectors where work and work flow is increasingly managed digitally.

While Northern Ireland has only a slightly higher rate of unemployment (5.6%) than the UK as a whole (4.8%) it has a significantly lower rate of economic activity (74.2% compared to 78.3%.

Higher rate of inactivity and correspondingly higher claimant count is largely explained by a higher proportion of people who are long-term sick (30.2% to 22.8% as a UK average). Of the economically active population, only 8% do not make use of the internet, but this is the case for 39% of those who are not economically active. While this correlation does not prove a causal relationship, in combination with what we know about the job modern market it implies that lack of digital skills and being offline may be a significant factor in keeping people out of work in NI. The potential impact of a skills gap within the NI workforce was identified by the NI Executive which contrasted success in developing world class high end skills and connectivity [19] with much more limited success in developing basic skills.

'..despite absolute improvements in the local skill base over time, a number of gaps (particularly the proportion of our population who have low or no qualifications) remain when compared to the best performing regions and nations' [20]

Social Return on Investment

A return of £3.70 for every £1 invested in digital inclusion activity

Data gathered from participants in Citizens Online's Get IT Together programme (funded by BT) enabled an in-depth analysis of the Social Return on Investment ('SROI'). The programme directly delivered digital inclusion trainings and support in communities around the UK and also funded training organisations to run specialist digital skills sessions. The SROI analysis funded and managed by BT (with support from Just Economics) conservatively estimated that the Programme generated a return of £3.70 for each £1 invested. The work has been taken up by Government Digital Services (GDS) and has informed the research working group that supports the GDS Digital Skills Advisory Board.

17. Digital Skills Crisis: House of Commons by the Science and Technology Committee. June 2016.

18. Disadvantaged young People looking for work: A job in itself? Rebecca Tunstall, Ruth Lupton, Anne Green, Simon Watmough and Katie Bates. Joseph Rowntree Foundation. October 2012 www.jrf.org.uk.

19. Digital NI 2010, Invest NI.

20. NI Economic Strategy: 3rd annual monitoring report. NI Executive Feb 2016

Financial Value to a New User of the internet

People could save an average of £1,064 per year by getting online

The Get IT Together SROI analysis further demonstrated that the value of being online to a new Internet user was £1,064 per year. This number is the combined result of greater confidence, financial savings, new skills and opportunities for job-seeking, and a reduction in social isolation. For an advanced user this figure is £1,756 per year. This comes from having greater online skills and particularly related to job-seeking. For a professional user, the figure rises to as much as £3,568 - the result of being able to work remotely and a wage premium to those who use IT extensively at work.

Longitudinal Study, Citizens Online

26% of beginners do not use their new digital skills without ongoing support Those online (70 per cent of them) encourage offline family and friends to use the internet too. 60 per cent of those who received training went on to access at least one government service online 12 months after training.

As part of the Get IT Together programme of digital inclusion work across the UK, Citizens Online undertook a longitudinal study over two years, to learn more about citizen behaviours and the digital journeys they undertook. This work showed that many people need ongoing support in order to gain confidence, sometimes with the same types of skill support being repeated a number of times.

Showing someone once and expecting them to be able to repeat a task is not enough, and booked courses that develop different skills over a period may also not be helpful for these individuals. Further, the rapid pace of technological development mean that skills may need to be almost constantly updated - or, at least, confidence of some users frequently refreshed. This is where digital champions can add value. New internet users do tend to enable offline friends and family to go online. They also tend to use government services after a year, even if that wasn't the initial reason for going online.

Digital Champions & Digital Resilience

An active cohort of professional, volunteer and embedded Digital Champions can each expect to provide an average of 16 digital skills support sessions each per week, making every contact count when it comes to digital skills support

At Citizens Online, we categorise Digital Champions (DCs) into three main types:

Professional: employed as DCs. Often mobile and deployable in different community settings.

Embedded: Undertake DC activity as part of a different main role, library workers for example.

Volunteer: Can be a DC either as their main role or provide digital support as an add-on to another role. May be assigned to one or multiple support settings by a host agency.

All of these types are valid and useful, although our experience is that Professional DCs are the most effective and the Embedded DCs are the most scalable. This was evidenced through our One Digital programme evaluation. However, when it comes to having Digital Champion support, we advocate a range of types being available. The need for continued and varied support levels for basic digital skills is one reason we advocate the Digital Resilience model. A 'resilient' digital inclusion ecosystem is one where a variety of service providers and organisations work in partnership to identify, triage and refer people at risk of digital exclusion to appropriate digital skills training and - where necessary - support in using digital services. Such a model is built around a range of types of Digital Champion.

Digital Organisations and Business

38% of Small Businesses and 49% of Charities lack basic digital skills

66% of Small Businesses and 78% of Sole Traders do not invest any money in digital skills

The staggering figures above are the result of research for the Lloyds Bank UK Business Digital Index 2016. Their research also found that the most digitally enabled small businesses are twice as likely to report an increase in turnover, compared to the least digitally enabled small businesses.

This also needs to be considered in the context of the NI economy and the increasing importance of SMEs (including farms, forestry and fishing) in rural areas. These enterprises will have a growing need for digitally skilled workers, but may be limited in their ability to develop those skills and recruit suitably skilled people locally without support.

The importance of sole traders (no employees) and micro-businesses (1-9 employees) as employers can be seen in Table A4 below, which shows numbers of enterprises for a selection of sectors. The sole traders and micro-businesses are likely to be of particular importance in rural areas where tourism/ the service sector and agriculture forestry and fishing are principle employers. It also links into the value of diversification of farms as businesses and the value of this to the rural economy.

'About half of all UK farms use some form of diversified activity in their farming business and these bring an average of £10,400 extra revenue per farm' [21]

'SMEs make the majority contribution to Northern Ireland. Small and medium-sized companies and self-employed people, together, provide; 75% of employment, 75% of turnover and 81% of Gross Value Add (GVA) in NI's private sector. Furthermore, SMEs actually employ more people than NI's large companies and the public sector combined' [22,23]

Table A4: NI Economy Sectoral Composition: Share of enterprises by size[24]

	Employees					
Sector	**Zero**	**Micro (1-9)**	**Small (10-49)**	**Medium (50-249)**	**Other (250+)**	**Less than 250**
Agriculture, Forestry and Fishing	14,545 **81%**	3,190 **18%**	130 **1%**	5 **3%**	0 **Zero**	17,870 **100%**
Manufacturing	7,180 **73%**	1,860 **19%**	630 **6%**	175 **2%**	35 **<1%**	9,845 **>99%**
Construction	19,625 **79%**	4,625 **19%**	470 **2%**	65 **<1%**	5 **<<1%**	24,785 **~100%**
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	5,705 **43%**	5,995 **45%**	1,355 **10%**	195 **1.5%**	25 **<1%**	13,250 **~100%**
Accommodation and Food Service Activities	300 **9%**	2,225 **66%**	705 **21%**	110 **3%**	110 **3%**	3,340 **~100%**

21. DEFRA guidance on farm diversification, January 2014.

22. DETI, Quarterly Employment Survey, Table 5.10 (March 2014 figures); ONS Business Population 2014.

23. The contribution of Small Businesses to Northern Ireland. The Federation of Small Businesses (FSB), October 2015.

24. The contribution of Small Businesses to Northern Ireland. The Federation of Small Businesses (FSB), October 2015. Table 19 - Share of enterprises in Northern Ireland for Industrial Sectors by employment size.