



BIRMINGHAM CITY
University

ENABLING A DIGITAL BIRMINGHAM

**An evaluation of the Birmingham Digital
Inclusion Strategy**

Author: Dr Nathan Kerrigan



Birmingham
City Council

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INTRODUCTION

Digital exclusion has been long recognised as an issue for those individuals, groups and communities directly affected by it, as well as for society and policymakers more broadly given that digital technologies both shape and are embedded into the social and political lives of citizens. This study evaluates the impact of the Birmingham Digital Inclusion Strategy on supporting individuals, groups, and communities in reducing levels of digital exclusion and promoting digital literacy through skills development. The aims of the study were to:

- i.) examine what is working well and what is working not as well in the delivery of the Birmingham Digital Inclusion Strategy.
- ii.) examine the role structural inequalities have on current levels of digital exclusion across Birmingham and the effectiveness of the Birmingham Digital Inclusion Strategy in reducing the overall level of digital exclusion across the city.
- iii.) assess how the Digital City and Innovation Team can better monitor and record levels of digital exclusion and what needs to be adopted to support individuals, groups, and communities most at risk, and
- iv.) assess what the central priorities of the Birmingham Digital Inclusion Strategy are and how these can be embedded across all five potential future workstreams to ensure sustainability of the initiative.

22 semi-structured interviews were conducted with key public, private and VFCSE (voluntary, faith, community and social enterprise) stakeholders, alongside three focus groups with Birmingham Digital Inclusion Strategy workstreams and analysis of survey data collected by the Digital City and Innovation Team.

Acknowledgements

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KEY FINDINGS

- BDIS demonstrates value in tackling digital exclusion holistically as a 'whole systems' issue utilising a multiagency and community development approach.
- BDIS demonstrates best practice as a network of public, private and VFCSE stakeholders, who share and engage knowledge and digital assets (e.g., new and refurbished devices, MiFi units, and online and software resources), facilitating successful digital inclusion activity via a multiagency partnership which benefits marginalised citizens.
- BDIS is delivered via a relational model of governance between the micro (of building skills and capacity in local communities), meso (infrastructural development and resourcing from private sector partners) and macro (BCC brokering and building relationships between different stakeholders) levels.
- Based on initial investment of £1,550,000, BDIS has supported 33,000 citizens who are/at risk of digital exclusion, costing £47 per citizen with £13.60 coming directly from Birmingham City Council.
- Strengths of BDIS: multiagency partnerships with inclusion of private sector partners as innovation; platform for opening up dialogue around digital poverty in Birmingham; amplified sharing and engaging local knowledge and digital assets; clear and simple process in distribution of devices via the Connected Services Programme and Birmingham Device Bank; created 551 additional digital skill sessions being delivered across the city; had positive emotional impact on those citizens BDIS provided support to.
- Areas for improvement: better integration and mobilisation of stakeholder knowledge and resources, especially commercial sector partners; bigger data packages to support digitally excluded citizens; better collaboration and coproduction of BDIS to ensure citizens' voices are included in its delivery.

Next steps

- Embedding of the relational model of sustainable digital inclusion to bolster work already delivered and build stronger, more integrated and 'joined-up' relationships between different public, private and VFCSE stakeholders, facilitating better mobilisation of knowledge and expertise.
- Deliverables for each workstream need to be more target driven as to mobilise the specialist knowledges and resources of each partner by ensuring the workstreams have something they can work towards, and each partner knows what and how they are contributing to the overall success of achieving that target.
- Setting up 'digital cafés' in local communities. These will carry over the social and convivial aspects of Warm Welcome Spaces, while bolstering the digital offer available in local areas (e.g., building capacity in citizens to scaffold learning via the digital champions scheme and ensuring access to communal access to devices and software).
- Mapping local geographies of need using data collected from the BDIS and identifying 'hot spots' of digital poverty. Using the relational model of sustainable digital inclusion, infrastructure and resources should be targeted to tackle need in these constituencies; starting small and focused and identify those areas most in need, while agreeing on priority people and what can be learned to support need elsewhere in the city once infrastructure is in place for the most digitally excluded local communities to become 'active citizens' in managing the problem(s) of digital exclusion.

BACKGROUND AND CONTEXT

The digital revolution has been one of the most radical social change(s) of the past 30 years. With 63 percent of the world's population connected online (World Bank, 2023; Ranchordás, 2020; Arora, 2019) - equating approximately 5 billion individuals globally - digitalisation has not only revolutionised the way in which people communicate with each other but also their interactions with essential service provision, resulting in recent shifts from offline or physical services to online and e-government services to provide the essential social and political needs of citizens (e.g., applying for welfare benefits, housing, health and social care) (see, for instance, Anrijs et al., 2020; Lips, 2020; Schou and Svejgaard Pors, 2019; Davies, 2015; Voermans et al., 2015; Mcloughin and Wilson, 2013). Digital infrastructure has therefore the potential to address structural inequalities, democratise civic engagement and facilitate pathways to social and political inclusion (Sylvain, 2016).

Despite the significant expansion of digital infrastructure over the past three decades and its transformative potentialities, as digitalisation has become more integrated and embedded into policy there has been an increasing gap between those who have access and knowledge of how to use digital technologies and those who have limited or no access and knowledge of digital technologies (Van Dijk and Hacker, 2011). Consequently, millions of citizens in Western countries remain digitally excluded because they cannot or are not able to engage with digital technology (European Commission, 2019). In this context, digital exclusion refers to a lack of access to or use of the internet but also recognises a need to acknowledge the nuances within what it means to be digitally excluded, with extent and quality of access, as well as impacts of being online also considered (Bunyan and Collins, 2013; Scheerder et al., 2017).

The literature highlights that access to digital technologies (or lack thereof) has impact on the ways people work, learn, communicate, access particular government services, inform, or entertain themselves (see, for instance, Anrijs et al., 2023; Guo and Wan, 2022; Jauhiainen et al., 2022; Leukel et al., 2022; Taipale et al., 2021; Scheerder et al., 2019; Helsper, 2012). The current digital landscape has meant that everything has become digitalised, from arranging online meetings and video calls with family and friends, shopping or cultural experiences, to consulting bank statements, purchasing tickets for public transport or to make a doctor's appointment (Schou and Svejgaard Pors, 2018; Taipale et al., 2021). Because having access to a fulfilled social life and political services such as welfare benefits, health and social care, and housing are seen as bare essentials for citizens in contemporary Western countries, people who are unable to meet these needs when necessary based on the digitalisation of everyday life and services can be considered as being excluded or disadvantaged in society (Benini, 2018; Cantillon et al., 2018).

The Covid-19 pandemic – specifically, the social isolation lockdowns created for vulnerable citizens – coupled with changes to the digital landscape to many public and voluntary services, further highlight the severity of digital exclusion and have acted as a catalyst for conversations around how to address it. Over the past few years in the UK there has been a rise of initiatives designed to tackle digital exclusion, from the Department for Education's drive to provide disadvantaged individuals, groups and communities with laptops, tablets, 4G routers and mobile data (HM Government, 2021) to the BBC's 'Give a Laptop' radio campaign (BBC, 2021) and a host of local drives to provide devices to those who could not otherwise access them, many of which rely on the goodwill of the public to donate devices.

There have also been local authorities interested in investing in digital inclusion initiatives with the ambition that all citizens and institutions will have access to digital content and technologies that enable them to create and support healthy, prosperous, and cohesive communities. This has been done by creating educational and social opportunities via the distribution of affordable digital technologies affording skills learning and sharing opportunities, access to mobile data through national databanks (Good Things Foundation, 2023a) facilitating greater social inclusion, and building appropriate digital infrastructure with greater product and service accessibility.

The Birmingham Digital Inclusion Strategy (BDIS) is one such initiative that has sought to enable and empower citizens and communities of the city to access services and new opportunities to improve life chances, greater access to jobs and learning and facilitate an inclusive society (BCC, 2021). Commissioned by Birmingham City Council (BCC), this report is based on an evaluation research study of BDIS. The evaluation aimed to assess the impact of Birmingham's Digital Inclusion Strategy through critically evaluating what has worked well and what has not worked as well in its delivery to address the digital exclusion of marginalised and disadvantaged groups when it comes to poor digital skills and capacity, limited or no access to e-government services and wider systems of social support.

This report presents key findings from the evaluation of the Birmingham Digital Inclusion Strategy. Carried out by a researcher from Birmingham City University. The report is organised around five sections:

1. Birmingham Digital Inclusion Strategy
2. Aims of the Evaluation
3. Methodology
4. Key Findings
5. Final Reflections and Recommendations



BIRMINGHAM DIGITAL INCLUSION STRATEGY

The Birmingham Digital Inclusion Strategy is an action plan that applies the best practice of other local authorities (e.g., Leeds City Council and Cornwall County Council) to address the problem of digital exclusion in and around the city more effectively by adapting what worked well and what did not work as well from elsewhere to meet the needs of the individuals, groups and communities experiencing digital exclusion in Birmingham.

The BDIS adopts a joined-up approach. Working with voluntary, faith, community, and social enterprise (VFCSE) stakeholders in local communities, as well as public and commercial partners, the BDIS aimed to address seven key priority areas. These are:

Governance – a shared agenda and shared resources

Scoping the challenge – understanding where to target resources

Inclusivity – leaving no one behind

Building capacity – enabling communities to lead

Connectivity – keeping citizens and communities connected

Building capability – building on existing expertise

Funding – securing social value and a collaborative approach for bidding opportunities

The BDIS' joined-up approach is based on multiagency stakeholder engagement between public, private and VFCSE sector partners to address these seven key thematic areas in tackling the problem of digital exclusion through integrating macro-level factors (e.g., resourcing, funding, connectivity, structural inequalities, and governance) with micro-level factors (e.g., addressing the needs and experience of individuals, groups and communities who are currently or have been digitally excluded). This approach required Birmingham City Council to work together with different local and regional, public and VFCSE (e.g., Neighbourhood Network Schemes, Incredible Surplus, Migrant Help, Epic, Jericho Foundation and so on), and commercial partners (e.g., Microsoft, Barclays, Amazon Web Services and so on) to support citizens and local communities. This joined-up approach is shown in Figure 1, presented on the next page and taken from BCC's Enabling a Digital Birmingham report (2021)

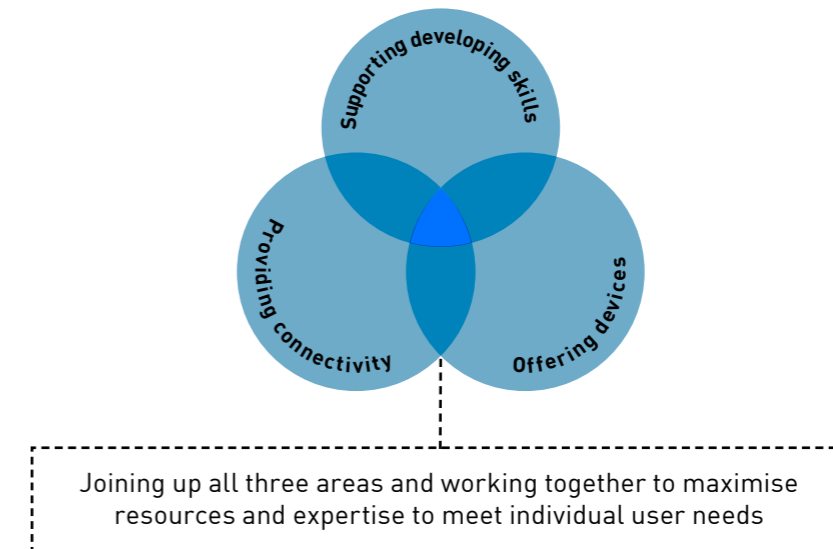


Figure 1: joined-up approach of BDIS (BCC, 2021: 15).

Application of this joined-up approach as part of the BDIS centred around supporting citizens and local communities by scaffolding knowledge and resources, building and creating capacity, and brokering relationships between and across different organisations. BDIS aimed to do this by being citizen-focused and assessing the needs of individual citizens and communities, providing targeted support to address barriers to inclusion, such as around access, cost, skills and confidence and motivation.

This citizen-focused principle was built around having a good understanding of the use of digital technologies in citizens' everyday lives and recognising need may look different from individual to individual and within and across different local communities. BDIS' vision in delivering a collaborative, joined-up and multiagency approach was underpinned by five core principles. These principles provided the foundation on how the BDIS was coordinated and delivered to embed the digital into the everyday lives of citizens and local communities to ensure a digitally inclusive city:

- Person-focused and inclusive – placing people, communities, businesses, and organisations at the heart of design and delivery, ensuring they are involved from the outset in helping to co-design targeted and bespoke solutions that meet their needs.
- Holistic – focusing on activity that seeks to overcome all the challenges associated with digital exclusion and linking this agenda with other areas of work that seek to tackle other forms of social and economic exclusion
- Collaborative – working in collaboration with partners to achieve joint outcomes, deliver coordinated and strategic activity, empowering our communities to develop trusted networks and acting with one voice.
- Partner-led – delivering a city vision with collective ownership and shared delivery of activity across partners, ensuring to work with and learn from those who have experience and expertise in this area as well as leveraging existing networks and assets.
- Evidence-led – working with partners to gather evidence of the local digital landscape, the barriers people face, and evidence of what works well to ensure there is a robust assessment of digital exclusion at a local level and can utilise this insight to identify interventions that will have the most impact.

(BCC, 2021: 16)

The joined-up, multiagency approach employed by BCC in the delivery of the BDIS aimed to achieve the following: -

- Ensure that every citizen has easy access to an internet enabled device such as a computer, laptop, and smartphone, and ideally within their own household.
- Delivery of city-wide, community based and online educational sessions, providing basic, intermediate and advanced tuition to meet specific needs of citizens by developing digital skills and building capacity within individuals and local communities.
- Integrate targeted interventions and effective signposting into the delivery of community based and online educational sessions by creating opportunities for scaffolding knowledge of the digital to citizens, ensuring and maximising skills development and removing barriers for those that are most vulnerable or excluded via a locality specific and sustainable approach.
- Greater citizen choice by making solutions to overcoming digital exclusion simple and easy to use, building confidence and motivation, and which enable citizens to access service provision independently using their device of choice and at a time of their choosing.
- Minimisation of digital and data poverty so as to remove or reduce the barriers of digital inequality in the everyday lives of citizens and local communities, improving the social and political lives of citizens through greater choice in accessing services and activities online as well as providing skills and capacity to engage socially online in a safe and secured environment.
- Raise awareness of the importance of digital skills and inclusion and their role in supporting citizens and local communities

(BCC, 2021: 12)

Digital Exclusion in Birmingham

As identified in the 'Enabling a Digital Birmingham' report (BCC, 2021) Birmingham has seen a decrease in the total number of citizens experiencing digital exclusion throughout the city, with 91.4 percent of citizens classified as being digitally included in 2019. This is a 2.8 percent increase in the total population of Birmingham citizens having access to digital technologies and infrastructure compared to the same period in 2018. The rate of digital inclusion in Birmingham is greater than the national average. Despite this, experiences of digital exclusion remain a constant present throughout the city and the need to tackle it has only been further highlighted by the Covid-19 pandemic, which raised awareness of the importance of digital technology in people's daily lives for not only accessing essential services, but to engage with friends and family, as well as work and education.

There has been a number of initiatives in recent years in Birmingham that have been implemented to support citizens, communities, and businesses to take advantage of the digital to gain skills needed to enhance quality of life chances and business prospects. Nevertheless, despite the importance of such initiatives, digital exclusion remains an issue for many local citizens and communities. Covid-19 pandemic and the mandated lockdowns demonstrated a widening and deepening digital divide between local citizens and communities, with the already most vulnerable social groups in the city, individuals and families in low socio-economic income households, disabled people, and racially

minoritised groups and older citizens, being disproportionately affected.

The factors impacting on digital exclusion are complex and there are many different levels of need when it comes to digital exclusion (see Sections 1.1 and 1.2 under Key Findings). Some of the issues that may impact citizens' level of need and severity of digital exclusion include:

- affordability of devices and connectivity costs
- the skills gap to use a device, or ways to learn how.
- a lack of internet and/or device access.
- Lack of motivation and confidence to use, understand or engage in the digital arena.
- Not knowing where to start using the digital.

(BCC, 2021: 20)

Birmingham is ranked 7th in the Index of Multiple Deprivation (IMD), with 42% of its population living in the top 10% most deprived areas in the UK. Below are some statistics that have been taken from the 'Enabling a Digital Birmingham' report (BCC, 2021: 23) to highlight the levels of deprivation experienced within and across the city:

- People with an annual household income of £50,000 or more are 40% more likely to have foundation digital skills than those earning less than £17,499.
- Of those households earning between £6,000 to £10,000, only 51% had access to the internet at home, compared with 99% of households with an income of over £40,001.
- 57% of people with a household income below £11,499 have essential digital skills, compared to 89% of those with a household income over £25,000.
- 41% of children in Birmingham live in poverty and there is a life expectancy gap between the richest and poorest areas.
- Birmingham's unemployment rate stands at 15.3%; above both the West Midlands (9.1%) and the UK (7.8%) rates.

Birmingham has been heavily impacted by the recent economic, cost-of-living crisis. Such impact will only worsen digital exclusion throughout the city. This is because general levels of poverty and structural inequalities (see Holmes and Burgess, 2022; as well as Section 1.4 under Key Findings) are significant contributory factors to digital poverty and exclusion. The BDIS informed by a joined-up, multiagency approach sought to support citizens and local communities of Birmingham impacted by digital poverty by building capacity and skills, confidence, and motivation through brokering and fostering partnerships with VFCSE, private and public partners to develop a sustainable infrastructure that afforded citizens and communities opportunities to learn new skills and get access to digital technologies to be able to access, independently and confidently, essential services, connect with friends and family and identify potential routeways to employment.

The study presented in this report examined the views and experiences of participants involved in the delivery of the BDIS and evaluates its impact. It is hoped that the evaluation will provide greater understanding and awareness of what has worked well and what has not worked as well in implementing the BDIS to ensure a future strategic and sustainable vision for a digitally inclusive Birmingham.

RESEARCH AIMS OF THE EVALUATION

The central aims and objectives of the evaluation were as follows:

- i.) Examine what is working well and what is working not as well in the delivery of the Birmingham Digital Inclusion Strategy.
- ii.) Examine the role structural inequalities have on current levels of digital exclusion across Birmingham and the effectiveness of the Birmingham Digital Inclusion Strategy in reducing the overall level of digital exclusion across the city.
- iii.) Assess what Birmingham City Council needs to adopt to support individuals, groups, and communities most at risk, and;
- iv.) Assess what the central priorities of the Birmingham Digital Inclusion Strategy are and how these can be embedded across all five potential future workstreams to ensure sustainability of the initiative.



METHODOLOGY

Research design

In the summer 2023, Birmingham City Council approached a researcher at Birmingham City University to evaluate their Birmingham Digital Inclusion Strategy which had been ongoing since 2021. The evaluation period started in September 2023 and lasted until the end of January 2024. This evaluation serves several purposes, including an independent examination of the BDIS' impact on addressing digital exclusion among vulnerable citizens and local communities, as well as offering an opportunity for BCC to evidence their digital inclusion-related activities, consolidate learning and reflect on what has been effective and what has been less effective about the implementation of BDIS. It is important to note because of the research approach and design, as well as access to data, findings mostly reflect on the experiences of the Connected Services Programme and Birmingham Device Bank

The agreed approach for this evaluation consisted of seven distinct tasks including a) Inception, development of research tools and application for ethical approval (Tasks 1 and 2), b) a review of the literature (Task 3), c) Data collection and analysis (Task 4 and 5) and d) Write-up of report and dissemination (Tasks 6 and 7). Planning and delivery of the evaluation was ensured by routinely meeting with BCC's Lead for Digital City and Innovation and the Birmingham Digital Inclusion Strategy's advisory board who, throughout the whole evaluation process, continued to enable access to the different public, private and VFCSE participants.

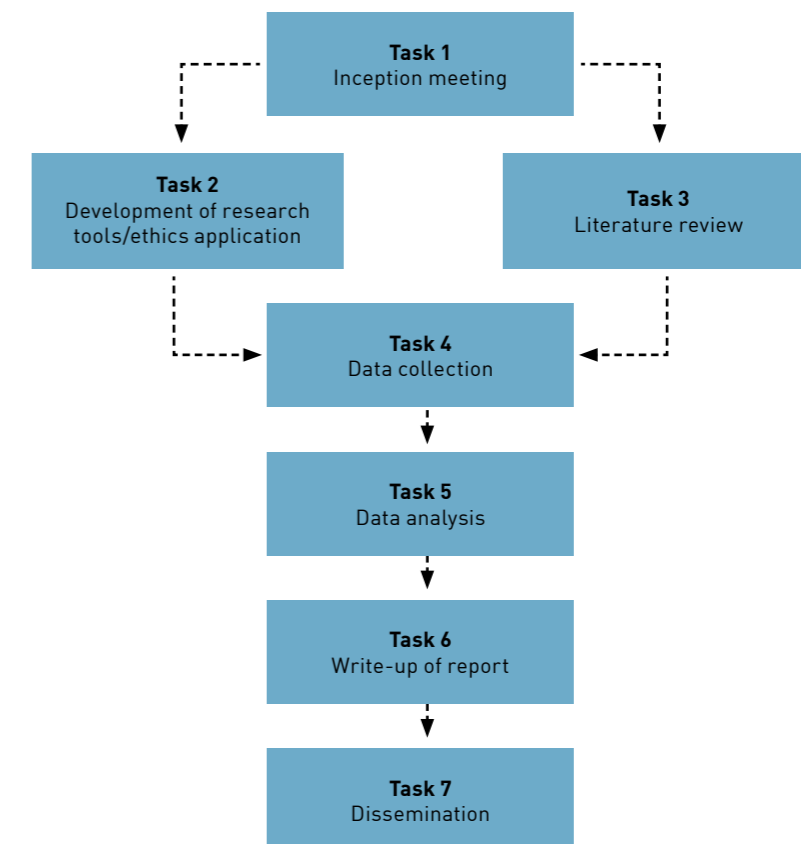


Figure 2: Project structure

The evaluation was based on a multiple method, qualitative research design. This included semi-structured interviews with public, private and VFCSE stakeholders, focus groups with BDIS workstreams and analysis of questionnaire data collated by the Birmingham Digital Inclusion Strategy team around how community partners had found the delivery of BDIS and its impact on their organisations and groups they work with. A multiple method, qualitative design was chosen as it allowed the researcher an in-depth understanding of not only the successes and speed bumps in the delivery of BDIS, but also the extent and scale of impact of BDIS on citizens and local communities, and their experiences of digital inclusion and exclusion because of its delivery.

Semi-structured interviews

A total of twenty-two semi structured interviews were conducted with a range of key stakeholders including, 7 participants from the public sector (e.g., BCC, NHS, and Children’s Trust), 2 participants from commercial sector organisations and 13 participants from the VFCSE sector (e.g., Thrive Together Birmingham, Jericho Foundation, Epic, Migrant Help and so on).

Public sector participants	Private sector participants	VFCSE sector participants	Total
7	2	13	22

Table 1

The semi-structured interviews entailed having a schedule with questions aimed at addressing the research aims and objectives of the evaluation. The schedule was not designed to be read verbatim in the same order with each interview, rather, it provided a structure and focus to the conversations for each interview conducted (Brinkmann, 2014). The use of semi-structured interviews allowed for deeper insights into the experience(s) and impact of BDIS, as well as to better understand what areas worked in terms of its delivery and what areas needed improving on for future sustainability.

Participants were given the choice, as explained in the information sheet, whether they wanted the interview to be conducted online or at a place appropriate for them. Majority of semi-structured interviews were conducted over Microsoft Teams (n=19), with only three interviewees wanting to be interviewed in-person and either in their local community or organisational context. Birmingham City Council helped with facilitating access and recruitment of participants. BCC did this by providing a list of potential stakeholders who may have been interested in participating in an interview. These were subsequently contacted individually and dates/times for the interviews were arranged. All interviews were recorded, either using MS Teams (for those interviewed online) or a mobile device for in-person interviews and then later transcribed verbatim.

Focus groups

Focus groups were also employed alongside semi-structured interviews and used as another important method for this evaluation research study. These focus groups sought to evaluate the successes and issues of each of the five Birmingham Digital Inclusion Strategy workstreams (e.g., Policy alignment, Skills – children, parents and carers of children, Skills – adults, Connectivity and devices, and Funding and sustainability). These workstreams were reorganised from the ones that were initially set up and outlined in the Empowering a Digital Birmingham action plan (2021), with the Skills, Enhancement and Amplification workstream eventually split into two priority demographics (e.g., Skills – children, parents and carers of children, and Skills – adults)

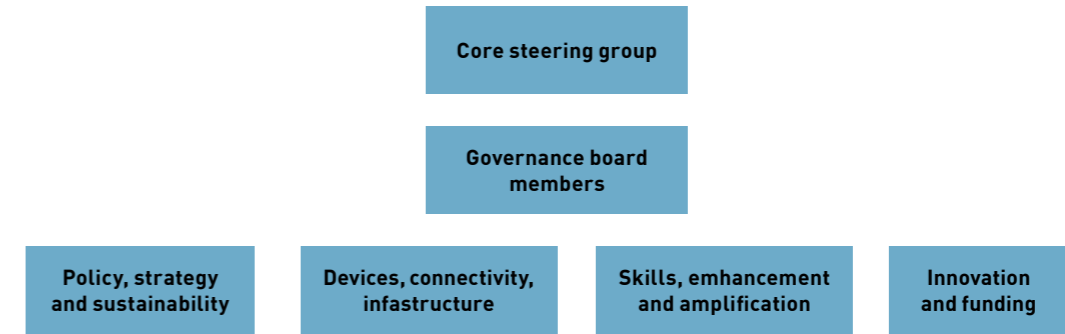


Figure 3: Initial workstreams

The purpose of using focus groups was to unpack what the central priorities looked like in delivering BDIS for each workstream and their impact on supporting its delivery, as well as what worked well and what did not work as well in the operationalisation of the workstreams as to identify their usefulness and areas of working which may want to be kept or adapted or removed to ensure future sustainability.

Three focus groups were conducted in total (Skills – children, parents and carers of children, Skills – adults, and Funding and Sustainability). Focus groups had been arranged or set up with the other remaining workstreams (Policy alignment, and Connectivity and devices). However, because of lack of availability or difficulty organising the focus group(s) around participants’ time these ended up as one-to-one interviews (included into the total number of semi-structured interviews above).

BDIS Survey

The Birmingham Digital Inclusion Strategy team created a survey to capture experiences of VFCSE organisations who had received devices from the West Midlands Combined Authority (WMCA). The survey included questions around breadth of digital facilities currently provided to citizens, as well as further, more exploratory questions around the scope of engagement with BDIS schemes and their impact on capacity building, and on future sustainability of digital provision in, and importance of such digital facilities for, local communities.

The survey was sent out to 240 organisations that received devices from either the Birmingham Device Bank or Connected Services Programme and a total of 108 responses were collated. These allowed for the analysis of not only the impact of BDIS on building capacity in citizens and local VFCSE organisations and structuring greater opportunities for engaging with, and having access to digital services but also to assess where future priority areas may lay in ensuring a future sustainable digital strategy for the city. Such insights were helpful when aiming to understand the transformative potential of BDIS overall.

Data analysis

Semi structured interviews and focus groups were analysed using a thematic analysis approach (Braun and Clarke, 2006). A thematic analytical approach was chosen because it allowed for the ‘identifying, analysing and reporting [of] patterns (themes) within [the] data’ (Braun and Clarke, 2006: 79). All 22 interviews and 3 focus group transcripts were initially coded, looking for specific patterns across the dataset. These codes were then compared and contrasted to produce a series of superordinate and subordinate themes based on the aims and objectives of the evaluation. Themes were identified within a grounded theory framework and based on inductive reasoning, whereby conceptual and empirical understandings of the impact of BDIS were generated from the data itself (see Corbin and Strauss, 1990; Heit, 2000).

Quotations from the semi-structured interviews and focus groups that demonstrate key findings are provided in blue. All quotations have been anonymised to ensure confidentiality and participants have been designated simply as what sector they work in (e.g., public sector participant, VFCSE sector participant, and private sector participant).

Analysis of the BDIS survey utilised a different approach. Using a qualitative oriented descriptive approach (Colofari and Evans, 2016), survey responses were analysed by identifying patterns in the data and then describing what these patterns suggest in terms of the overall impact of the delivery of BDIS from the perspective of VFCSE stakeholders in terms of what was successful and what may have perhaps been unsuccessful. These patterns were structured into the wider data analysis and presented holistically in the Key Findings section below.

Advisory group

This research project involved an advisory board comprising of members of the Birmingham Digital Inclusion Strategy team, VFCSE organisations, as well as wider public and private stakeholders. The involvement of a diverse advisory board contributed to producing trustworthy and credible research, as well as fostering collaboration and partnership working, representative of and aligned with the ‘joined-up’ approach of BDIS.

Ethics

In accordance with the British Sociological Association’s (2017) established research ethical guidelines and the application for ethics approval submitted and granted by Birmingham City University, interviewees were provided with a participant information sheet containing a summary of the evaluation research study and contact details for any concerns or further information. Written consent was obtained from all evaluation participants that engaged in semi-structured interviews and focus groups. Where data was collected via the BDIS survey, this was in agreement with BCC’s ethical compliances and participants were informed the answers provided may be used as part of the evaluation.



KEY FINDINGS

1 Digital Poverty, Vulnerability and Need

1.1 Diverse vulnerabilities

One of the central findings regarding digital poverty, vulnerability and need was the existence of a diversity of vulnerabilities in the ways digital exclusion was experienced. Digital exclusion varied across different social groups and mixes (see Borg and Smith, 2018; van Deursen and van Dijk, 2014). Each having their own unique nuance in terms of how digital exclusion impacted their lived experiences. This can be seen in the interview with public sector participant, which highlights the breadth of individuals and groups impacted by digital exclusion:

I mean, it's sort of nationally recognized that [it] is a significant proportion of the digital excluded population, the older people. And but there are many other kind of what we would call personas. I guess you know, so people with different challenges, impairments, et cetera, that tend to be more frequently digital excluded you know than your average member of the population generally. So people with disabilities are more likely to be digitally excluded. Umm, the homeless. Uh, you know, people with but challenges like mental health challenges. Uh, substance users, you know. Refugees. You know, so various things contribute to making it less likely that somebody's living a typical life. Life that includes being online, you know?

The diverse nature of vulnerability made visible through digital exclusion (Tsatsou, 2011) suggests a complexity of need, ways of trying to tackle level of need as well as the intersectional dimension of inequalities which influence the extent of access to digital technologies, levels of preexisting inequalities, lack of skills or literacy and unsuitable everyday living arrangements that may be exacerbated through the (lack of) digital (Katz and Gonzalez, 2016; Mubarak, 2015; see sections 1.4, 1.5 and 1.6 for further detail).

Many of these vulnerabilities in relation to digital inclusion were experienced by already vulnerable groups (Tsatsou, 2022). One group who were seen as vulnerable in this evaluation study were young people:

Our biggest pool of young people is because of our connections with the local authority and the care experience and foster agencies and things like that. But obviously, you know, people may be involved in youth offending, crime, learning disabilities, learning difficulties and mental health, physical disabilities, socioeconomic deprivation. Big wide mix across spectrum there. So the biggest pool is probably care experienced. And then obviously then maybe more multifaceted, obviously disadvantages there. But yeah, obviously we are engaging to give an example. I work across north Birmingham, whereby obviously we know there are bigger pockets of those social deprivation and obviously social economic, you know, deprivation within those areas. So again, we're trying to target as much as possible areas that have got the bigger pools of young people, but people in general that are affected by obviously the economic crisis for example, and obviously other areas of deprivation within our region (VFCSE sector participant)

What we can see in the above quotation is that vulnerability of young people in relation to the digital is highly and always multifaceted (see section 1.3 and 1.5 for broader discussions on intersectionality and the connection between digital and other social inequalities). Young people's access to digital infrastructure is contingent upon their wider encounter(s) with socio-economic deprivation, care experiences and potential engagement with criminality, which are framed by wider structures (e.g., economic crises) and which could be overcome through skills provision and capacity building:

We're very aware that there is a much stronger prevalence amongst older people than there is younger generations. We made a film about our experiences, so I'll have to send you the link to that because it's got some it's got some stats in there and stuff. It is quite shocking actually. How many older people are digitally excluded, and that prevalence is actually quite complex as to why it is because people have choices over that, how they spend their resources and people. Therefore, prioritise what is most important to them. If there is something new on the horizon that they have no understanding of, then even if they had the resources, they wouldn't necessarily prioritise their resources towards that because they don't get it. So I add on to that the lack of access to even you know to a device or to connect to an Internet connection to even have a go and then add on to that that there will be those who do not have the financial resources to do those things. And then you add the skill in. You can see how it's multi layered. It's not a simple thing to answer in terms of when you look across the piece, you know how many people are digitally excluded there. There are, well the numbers are there are there are more than you think, particularly amongst older people, but the shift is a is a complex answer (VFCSE sector participant).

These multi-layered, diverse vulnerabilities are not isolated to young people's experiences. Racially minoritised groups' existing marginality also resulted in nuanced experiences of emerging digital vulnerabilities too:

We worked with a lot of marginalised communities, so people from ethnic diverse backgrounds, people who may not have English as a first language, people who've got limited understanding of English terminology that you or myself maybe used to because we're brought up in Britain and we know terminology like Birmingham City Council, BCC GP, yeah, pharmacy, things like that. So we do come across a lot of people who struggle with some of the understanding and the experience that they've had through various systems, whether that be through statutory service providers or through interactions that like school gates and things like that or understanding language has made them feel a bit anxious about reaching out for support because they've got limited understanding of English or maths, it's limited their understanding of how to access things online and how to use computers. They're relying on their young children who go to school to do things for them, so they may not have been. They may not have registered with the right service like Birmingham City councils, online portals, GP's, online portals, things like that. They won't have put themselves forward for that because they have a limited understanding of how to utilize those systems or what it means for them. And we've also had some people who know all of that but get frustrated at the forms or only have access to a phone to look at it. So that puts them off because you know you can't see like the full picture of some of them, like seeing like a, you know on a device that like seeing it on a laptop or a computer or a tablet rather than looking at it on a phone. So again, that puts them off as well (VFCSE sector participant)

The literature acknowledges the challenges and barriers to digital inclusion for racially minoritised groups, especially when those groups entering a 'host' country (Hannides et al., 2016; Lim and Pham, 2016). Research demonstrates that prevailing digital divide among racial minorities was due to lack of physical access to and use of digital technology, limited skills to enable the effective use of the technology (including language skills) and having to either rely on family members or neighbours and other citizens to support them when accessing digital resources (Alam and Imran, 2015; Lloyd et al., 2013). Another factor that facilitated racial minorities' vulnerability in relation to the digital was around transnational communication (Madianou, 2016). This can be seen in the following extract:

a lot of this stuff is around communication. And so when you're having a public facing platform, really it's a communication modality. I've always pushing information out to patients or was gleaning information from patients. Uh, so we you have to have parallel routes and it may not be exactly the same. So one of the things that I'm looking for looking at with our interpreting service and we haven't implemented this, but I really want to is that we all have a working with the interpreter is the idea would be that we'd have instant access to uh, interpreters in any language who would be able to help service users who don't speak English as a first language to navigate the health system (Public sector participant)

Barriers around communication become an issue as the lack of arrangements to include and integrate racially minoritised groups through digital can deepen exclusion of these individuals and groups and erode trust among societal institutions and the wider community (Sefyrin et al., 2021). Building of rapport, working with racially marginalised communities to deliver skills training and sharing learning about how to access specific government services and how their personal data is used is articulated below as a strategy to develop trust through empowering local communities to provide support and deliver skills and capacity building:

From marginalised communities. we've been working with women of colour, women from black and Asian heritage, men from black Heritage, Asian heritage and we have seen or even like people from low-income households or no income households where they may not have readily, you know, available access to devices, to computers, to laptops, to telephones that have got unlimited data usage. So they may be watching the pennies on how they're, you know, how they're keeping their data usage down, what kind of apps they're accessing and also some of them are also wary of adding their information to systems they see as the government tracking them. They've got this like distrust about the government, about statutory providers like the local authority, like the GPS. They think once they put their information in the system as what they call it. Umm so it's forms, you know, even though we explained to them those organizations got data consent, they've got GDPR that they need to adhere to their understanding they're limited, understanding makes them think that once they're in the system that they can be tracked and they can be followed. So there's lots of various reasons and the primary reason we start working with them is very much their mental health. And they've been either referred to us or they've reached out to us or we've shared with them that we do mental health work. And so that's what they start. I'm seeing through our work we definitely uncover with them through relationship building and trust building because we any person can access our services for up to 12 sessions and those 12 sessions can be weekly, fortnightly, monthly. And during that time, we have like an hours' time with the person and it can be like on a one to one basis like this, it can be face to face, it can be over the phone (VFCSE sector participant)

One group where such support needs to be provided to remove increased vulnerability is migrants and refugees. One VFCSE participant highlights how 90% of migrants and refugees supported do not have access to, nor the skills to use, appropriate levels of digital services:

Primarily the clients that I help are the ones that literally have entered the country and said that they want to seek asylum. And most of them, about 90% of them literally, are coming in, in the clothes they have on. They don't have a suitcase with clothes. They don't have any belongings with them. If they did have a mobile phone and they've travelled across the border, it may be cracked. It may be damaged, it may have water damage, et cetera. Or sometimes the Home Office take their mobile phones off them on entry because they need to check for terror activities. The Home Office do say that they will give the mobile phones back, but that is. A backlog on that as well. No fault of the Home Office, obviously. I'm guessing that it takes a while for them to kind of do their checks before they can return those devices to the clients. Part of the Home Office contract is that they don't provide Wi-Fi as part of the housing that they provide the clients. So there's no Wi-Fi at all. And there isn't definitely no laptops and no digital inclusion with it or within When I have spoken to people that are supporting Ukrainian refugees and stuff like that, there's a lot more support in terms of the package that has come with them because as soon as they arrive, they can apply for Universal Credit. Councils have support provision in for housing support for furniture and have been working on the ground with certain charities they've been giving like an individual host or mentor who they house with, who are more than likely going to have a spare phone in their home or a family friend that they could phone and say, has anyone got on the spare mobile phone or spare laptop. So getting those devices for those kind of people is a lot more easier (VFCSE sector participant).

1.2 Complexity of need

Understanding of digital poverty; the lack of access to digital technologies, limited skills and capacity and other barriers to digital inclusion cannot be fully comprehended without understanding of the complexity of need experienced by those individuals and groups most digitally marginalised (Barrantes, 2010). This is something that came up in the Children, parents/carers and young persons' workstream:

I definitely feel like it's important in terms of inclusion like diversity within the workforce as well. So yeah, with a lot of the work that we do with schools and children, you also work with a lot of SEND school specifically as well. And the work that we do. So it's definitely important to us to kind of make sure we're recognising the different needs there and what kind of goes into that and ensuring that we're taking those into consideration

While the discussion of need in this workstream was largely based on childrens' level of need and ensuring the complexity of childrens' needs are taken into consideration when thinking through implementing strategies for digital inclusion, the discussion of complexity of need also came up in an interview with public sector participant:

Actually it's highly contextual because if you're talking about structure as a structural inequality you might have someone who is technologically very savvy. They have a broad range of digital life skills. They can use the Internet to do anything, but they might not trust the health service to use their data effectively or fairly. And we saw this in particularly the African Caribbean Community. And so what we know is that there might be fully digitally included but not in terms of health because they might not want to use the systems.

In both accounts, there was an emphasis on understanding the nuances of need which made individuals digitally excluded. Not everyone who experiences digital exclusion is excluded in the same or similar way. Therefore, an understanding of individualised need needs to be factored in when considering provision of support.

One example of complexity of need that arose from the interview data was that of generational learned behaviour and trauma:

it tends to be kind of a generational learned behaviour and a lot of the people that we were working with substance misuse, it is generally a symptom of trauma. So we talking about, you know, the vast majority we work with have been through traumatic events. And for, you know, maybe if we could have a stereotypical service user and we don't really because obviously drugs, drug addiction can affect anybody, but I would say that the kind of broadest part of the population would be people that have either grown up in the care system or they've been in and out of care because of a lack of ability to parent and within their own household. And they have not necessarily done all that (VFCSE sector participant)

Those who experienced greatest digital poverty for VFCSE sector participant were those who also demonstrated socially reproduced trauma. Highly traumatic events in the lives of individuals, such as growing up in the care system and experiences of high levels of deprivation and wider social inequalities (see section 1.4) result in trauma-induced situations such as substance misuse. This makes addressing the digital needs of these citizens more complicated (Livingstone et al., 2018) because these individuals may experience heightened stigma when engaging with government services (Dobrinsky and Hargittai, 2016; Scholz et al., 2017). Research has demonstrated that digitality can encourage individuals who experience such generational trauma to build capital-enhancing capacities (Dobrinsky and Hargittai, 2016) and help them gain feelings of belonging, enjoyment, competence, autonomy, and self-worth (Chadwick and Fullwood, 2018; Chib and Jiang, 2014; Dobrinsky and Hargittai, 2016). However, the embedding of digital inclusion into the lives of such individuals require customisation, training and support to effectively use technology (see section 3 of report for detailed information about how BDIS can embed this).

Another need that needs to be considered when embedding digital inclusion into the lives of vulnerable citizens is the ontological insecurities and existential fears (Giddens, 1991) that digital technologies can produce:

If they suddenly realize that they don't understand the world and they don't even know how to access it to try. So I think there is a massive thing where if people have got, whether it's language barriers because of English not being a first language or language barriers because of the expectations of how somebody conveys themselves, or whether it just might be something like a learning disability or something of that nature that can get in the way of somebody being able to say, I don't know how to do this, you know, it could be embarrassment, fear, shame and some of those things can mean that when people are offered support, they designed or don't need that or they don't ask for it because they don't know that it's available or they feel ashamed and feel that they should know these things anyway. You know, for somebody to say I don't have access to computer, I don't have Wi-Fi. Just for some people it can be as embarrassing as saying in debt or, you know, I haven't eaten for two days because it's just another example of this is how bad things are for me (VFCSE sector participant)

Not being familiar with digital technologies and then finding oneself having to negotiate many aspects of social and political through the digital can be a problematic task for many individuals who are digitally excluded. It can facilitate a sense of insecurity in one's understanding of themselves – their identities, abilities, and capacities – and the wider social world around them, leading to existential fear(s) concerning adopting to a changing world as well as fear regarding becoming further isolated and exclusion from society and crucial societal institutions. Example of such concerns can be seen in the extract below:

I've got parents evening next week. Online. So all these things that I've now the school have gone online to do. Our parents can't take part because they haven't got, they haven't got a laptop, they haven't got phone. So they're completely digitally excluded and obviously has massive impacts on the kids. And they've already got a barrier with the kids because maybe there's a language barrier, but then this is just putting more and more barriers in front of them because they don't have access to anything that even just allows them to know that their kids have been knocked over. I've got a graze (VFCSE sector participant).

Not having access to, or the skills required to use, digital resources mean that many individuals, especially parents of children from migrant or refugee backgrounds where English language may be a barrier to access, have existential and ontological insecurities around how they are going to achieve a decent standard of living and a 'good life' for themselves and their children. Thus, the integration of digital inclusion strategies need to factor in people's complexities of need. These needs need to be addressed before individuals can be fully integrated and included into digital realms.

1.3 Digitalisation, risk, and social change(s)

According to sociologist Ulrich Beck (1992) the contemporary social world is one underpinned by an awareness of risk, uncertainty, insecurity and an increasing vulnerability to the unpredictable, unfamiliar and unprecedented risks manufactured by modern science and technology. No where is this more pronounced than in the digital arena. Digitalisation has rapidly reshaped and articulated how individuals experience social and political life. People can now talk to loved ones the other side of the world from mobile devices. Essential services are now mostly digitised, with everything from a doctor's appointment to booking travel and paying for council tax mostly handled online. While this has revolutionised the ways in which social and political life is performed, it has also facilitated the creation of new, 'manufactured risks' (Giddens, 1999). This can be seen in the way local citizens have had to navigate the increase in digitalisation of essential services and the assumption of digital accessibility:

You know, how do people book an appointment at the doctor's? Now you've gotta be digitally connected to do it. You know, how do you approach the local authority? Well, now they went through a path where they weren't answering their telephones. So the only way you could do it was online. Well, if you're not digitally connected, you're excluded from access to basic services. Everyone kind of assumes that people have got that kind of access, I think of my own parents, you know, the fact that they don't have, you know, all of their banking has to be done online. My dad's 85. It's really tricky, you know, and so just basic stuff that they've taken for granted. They're perfectly competent at doing, but there is this incompetency that is introduced into the whole landscape because they don't have those kind of skills or confidence in their skills (VFCSE sector participant)

These heightened feelings, or experiences of, risk are the consequence of an ongoing liquefaction (Bauman, 2000) of daily life and societal institutions. As social change(s) happen, they cause society and specific societal institutions and the very social fabric of daily life to undergo a melting of 'solid' structures. Structures which have historically given individuals a sense of security and certainty, from welfare systems to secure employment. However, the rapid pace of change, in which digitalisation is part, has meant that these institutions and ways of being that once provided security become liquefied and facilitate a sense of insecurity. Digitalisation is an arbiter of such insecurity as it forces individuals to adopt to change in the way daily life and accessing essential services is done, leading to increased exclusion of individuals unable to adopt to such change as demonstrated in the following:

Definitely. But one of the biggest changes is a lot of our citizens for years and years and years have on a Friday gone and picked up their pension from the post office, paid their bills and then walked home. But all those local post offices closed down and a lot of them then moved to High Street banking. And guess what? Our High Street banks are now closing down as well. Like even a task as simple as drawing your pension can't happen in the same way that it used to. And people are either having to travel, um you know, considerable distances at times as well. And I was having a conversation with one lady that said she used to pick up a pension from the local post office that then closed. She then moved to a bank on the High Street and that then closed and she then was using a bus to get to the next nearest bank which was actually in the city centre. Which is crazy. Having to go all the way into the city centre once a week to pay your bills and which she then started doing. And then after 18 months they stopped the bus service. She was like literally then I'm having to walk 1520 minutes to get a bus to get a bus into town to be able to draw my money out and pay her bills in the way that she had been before. So he was supported by a local organisation that set up a load of direct debits for her and which meant she wasn't having to do that every week. But if you haven't got a family member that will do that for you, or even tell you that that's a thing like you wouldn't believe how many older people don't use direct debits, they don't know about it or they don't understand it. But a lot of people don't trust it. They don't want to give organisations opportunity to take money directly out of their bank without their permission, you know, that's a real fear. So they, they don't wanna do it. They just want to get their bill, they want to go to the post office and they want to pay their bill and. But once those things are set up and they realise they've got that trust that those things are just like regularly, you know, once a month taken out and then obviously it's a lot easier for them, not always easy to convince them of that, but it is, Yeah. So it sounds like to me as though there is obviously the pace of change at least in terms of the digital and the kind of a move away from sort of like I suppose state that state funded kind of support to a world where the focus is all on the individual to make, do and negotiate things like paying bills and their own health, well-being and you know all of that sort of stuff uh leaves them like behind. So in that case, what sort of support is supposed to kind of, you know, is provided to them? (Public sector participant).

What this liquefaction of social life and societal institutions has facilitated is a more individualised society (Bauman, 2001). No longer it is seen to be the remit of the state to provide sole responsibility of its citizens. Instead, each and every citizen has an ethical and moral duty to ensure the security and safety of themselves and their loved ones, neighbours and communities. In an increasingly digitalised landscape, this has said to weaken communities, creating inauthentic modes of being together and interaction. Such use of the digital, however, is maintained to be generational (Volkom et al., 2014), with older people understood to be self-isolating from engagement in the digital sphere as they see it to be a less authentic form of interaction and irreplaceable to the more, intimate modes of togetherness facilitated by face-to-face interaction. This is seen below:

Well, I think the big factor is the people who devise systems now and so assume that everyone is connected so that that all that does is further isolate those that aren't umm...Yeah, I'm thinking I am thinking I understand this and. I think that people value personal presence more than they do. The kind of connection that happens over the Internet when they're not familiar with it. So if you've not become digital, how do you prioritise becoming digital is an interesting one, and because it's seen as the poor relation, you know we think about or how we even talk about it, about the younger generation as if they're not having real relationships, if they're connected with people online through gaming and through things like that. So it is seen as the poor relation of real relationships. So that's another thing that kind of people self-select to exclude from a digital world because they don't, they don't see it as authentic or real (VFCSE sector participant).

Wider social change(s), however, have necessitated citizens, local authorities, businesses and organisations to consider the greater importance placed on digital infrastructure. Covid-19, for instance, created a 'critical situation' (Giddens, 1984) which made individuals, institutions and organisations reflect on ways to continue everyday social habits and work while under the unprecedented conditions of repeated national lockdowns. Public sector participant 6 observes that, despite the brevity of uncertainty caused by the pandemic, it also created opportunities for raising awareness of the extent of digital poverty across Birmingham and the need to introduce policy solutions to address exclusions through the digital:

What has happened is in some ways the pandemic was good because it really highlighted this issue more than it had ever been. People were very aware that this was a problem that people couldn't get access. You know things that they needed to access online for all sorts of reasons, which we've sort of touched on. But what happened in the pandemic was suddenly this became much more acute to people having to work at home, having to educate their children, their home, and so on. And the spotlight was in some ways really useful, I think, put onto this work now. I'm not sure whether that was the specific motivation in Birmingham, why this was particularly highlighted at the time it was. I believe that [BCC] had been working on the importance of digital inclusion for quite some time before that. But what the pandemic gave was an opportunity for people to really understand this in a way that I think it hadn't been understood before. They were seen as a bit of a oh, well, you know, some people can't access devices, but that doesn't really matter. Whereas what happened in the pandemic everything moved online and so there was this seismic shift in how services and other things were conducted, which meant if you didn't have digital access, you were properly not able to do things far more than it being the case before (Public sector participant)

While the pandemic provided a moment for reflecting on digital poverty and embedding policies or strategies of how to tackle it, the strategies and solutions taken to support vulnerable citizens and local communities was constructed as not being fast enough in addressing need and mobilising material assets across organisations: -

Policy change takes time. We know that some actions are going on in the background, but this project was three years and their entrepreneurship project and so was the employability one. but what happened was throughout all the time of working with these clients we started realizing what their challenges are, what their barriers are, what their direct needs are, which is late into the project, 8 to 9 months is when we started exploring these avenues of policy change. And you know it's late into the project, isn't it? So there's that. And then there's then finding and researching the direct organizations that can have this change. So it takes time. Really, the change hasn't been done, sorry. The change hasn't been and massive in the sense that we haven't been able to get organisations to make that change (VFCSE sector participant)

1.4 Digital and wider social inequalities

Digital exclusion is connected to wider social inequalities. One wider social inequality that influenced digital exclusion across Birmingham was relative deprivation (Helsper, 2017). Public sector participant highlights that the relative deprivation of citizens in certain areas of the city impacted decision making around engaging with and use of digital technologies in informal settings such as in the home and when out and about:

So in terms of broader kind of social inequalities and exclusions and how that taps into digital inclusion. So the other thing that I would say is in Selly Oak, we're quite a strange area, we're predominantly a white area, we've got real pockets of deprivation. But on the whole, they tend to be communities where people have bought their own houses that, you know, they don't tend to need financial support. And because of that, quite often people think that that those areas aren't an area of need. But actually that doesn't link with the digital literacy feedback that we've actually got, You know, we've got people that have worked all of their lives, you know, that have been doctors or have been, you know, real important job roles. But they still can't use what what they would call modern technology. So things like smartphones are just, you know, very alien to them. And so, yeah, it is a digital gap, but I would say that, you know, people are struggling to put food on the table, right and therefore the Internet just isn't an issue, something that they're, you know, not prioritising.

Experiences of trafficking victimisation were acknowledged in why some refugee and migrant individuals were digitally excluded, with having not growing up around digital technology and not having access to it due to exploitative control being the main reasons for their digital deprivation:

They have grown up in other countries, and where digital technologies isn't part of daily life and then they have no experience in the UK because of exploitative control. They've not had access to often digital devices because it means of contacting other people, so they've been deprived.

There are also citizens with complex needs (e.g., being raised in care, substance misuse, histories of criminality) which has informed experiences of digital exclusion. Becoming institutionalised within and by different social systems and services has meant these citizens have become mistrustful of receiving support around digital inclusion by the same systems and services they have had previous negative experiences of:

We've got some clients that have been institutionalized. You know, they've been through the care system. They've potentially being in the criminal justice system. They've been done to, you know, as far as they're concerned, by every service and there's an element of distrust, which means that people don't necessarily fully engage where the support's been offered because it doesn't feel like it's going their way or they've been used to being let down so that they don't easily immerse themselves into positive experience (VFCSE sector participant)

More broadly, there are some citizens who may have high level capitals, skills and capacities but for whatever reason they lack or have limited capacities and skills surrounding the use of digital technology. Older citizens of Birmingham are most vulnerable to this. They are most likely to misrecognise (Bourdieu, 1977) the importance of digital - for both opportunities and restraints - that now bound much of their daily life. In times of economic difficulties, they are more likely to give up digital devices because they are seen as a luxury and not essential:

It's not exclusively a case because people can be digitally included for other reasons, so particularly if you look at older people, they may be, you know, well off, but never had the chance to to use technology. So that's less what we focus on. When we think about digital inclusion we tend to think more of people who are disadvantaged because of not being able to afford to be included in some ways, but we do always have to remember there is that group of people who just don't have the skills although they might have the money to be able to be included (Public sector participant).

1.5 Digital exclusion and intersectionality

Many citizens' lived experiences of digital exclusion were framed around an intersectional dimension of inequality. Coined by Crenshaw (1989) intersectionality suggests that social categories (e.g., class, race, sexual orientation, age, religion, disability and gender) do not exist separately but are interwoven (Cooper, 2016). Intersectionality dismisses 'single-axis' analysis and focuses on the multidimensionality of people's experiences, namely the 'intersectional experience', which highlights interlocking systems of power and oppression that influence a person's experience of marginalisation (Crenshaw, 1989: 140). Research on digital exclusion (May, 2015; Smith, 2016, Tsatsou, 2022) demonstrates the concept of intersectionality is important to obtaining an understanding of the unique nature of the structural reasons or factors that lead to marginalisation for certain groups. Below are quotations taken from public and VFCSE sector participants that highlight how digital exclusion is bound up with some citizens' vectors of identity:

We're based in Sutton Coldfield and it is [digital exclusion] postcode restricted and tends to be white males. And because I think it reflects the population of certain people then the businesses that we've gotten tend to be placements that attract young males. I think probably about 2/3 of the apprentices are white males. They've got a small number of females on the Young People's project, but then the modern slavery project is almost the reverse, so we have probably about 75% female from all sorts of countries and lot of African countries, Philippines and yeah, Vietnam. Where else? All over the world. So our youngest survivor is 19. Our oldest is 76 is an amazing lady and yeah, incredible lady from the Philippines (VFCSE sector participant).

We want people to be accessing support in any way that they can. Nearly half of our families come from Asian or black backgrounds, so they are often ethnic minorities. And we also find that there is a big overlap often in. The poverty of those families so... A lot of the families are working class or struggling in some way and then some of the ones that aren't to have stuff like additional needs or it's quite a varied service. I often describe ourselves as a broad service which can refer you into specific services. So the the unanimous thing is that they have children, but it can be very varied in terms of. Stuff like disabilities and race and also even age, because if we have, sometimes we have families who are staying with their grandparents and so the grandparents are eligible for elderly support while the kids get early help support. So it's varied (Public sector participant).

1.6 Tackling need

A range of strategies have and are being employed across public, private and VFCSE organisations to address and tackle need in relation to digital exclusion. One strategy is the provision of skills training and courses to build the capacity of local citizens, from young people to those who have been historically unemployed or underemployed. These training courses aim to help support citizens into learning essential digital skills that can facilitate greater opportunities into employment as well as building confident and capacity ensuring their can successfully and independently navigate daily social and political life. Examples of such schemes to build citizens' skills and capacity and their impact are demonstrated below:

We were talking about 7000 [citizens]. There's a number of youth groups across Birmingham City Council that they're serving 7000 young people. So we're looking at taking one of our programmes. It is aimed at 12 and 13 year old girls, getting them into a career in tech. So we'll go into a school. Traditionally, we would launch a competition. We would ask the young people to create an application that might help their local area so it could be around mental health or homework or recycling and we support them to design the application and so they come into [Private sector organisation] and we kind of give them some extra support. It's a three to four month programme and it needs to kind of be embedded in the school national curriculum (Private sector participant)

We have another program called restart. Restart has an impact, so it's a 12 week programme. It's aimed at unemployed and underemployed people. They do a 12 to 16 week program entry level coding skills, soft skills and they get networked with employers. And the idea is to kind of track the number of people that earn over £30,000 following graduation. What we're seeing, there's really positive impacts on going through the restart program (Private sector participant).

I only look after the assets in Selly Oak that work with older adults. Digital literacy came up in our gap analysis about 3-4 years ago and has been a particular need in the area. It came up again during Covid because a lot of older people weren't accessed, weren't able to access online shopping. They was not a lot they were able to. A lot of GP surgeries moved to having to be e-mail prescriptions and they obviously couldn't do that. And also, Universal Credit check-ins all happened online as well. And a lot of people didn't have devices or Internet. So that was a real need that came up in, in Selly Oak (Public sector participant).

we've created like an employability or an employment process and essentially we've got another team that works that offers a skills to employment course. It's a five day long course and it's really about attitudinal change, so it's about supporting people to understand the benefits of working, what gets in their way of believing in themselves enough to get work, dispelling some of the myths that people have. Whether it's difficulty for them to get jobs and who's taking their jobs? And so it's about really addressing some of those things, you know and helping people to see the difference between reasons for not being able to get a job and excuses for staying out of work. And it's really giving people that power back of realizing that actually some of these things that they might hear other people spouting or things that they've sorted themselves aren't always based in any sort of real fact. And it's about being able to get people to understand that they're the only person that's really holding them back from being able to get out there and start a better life (VFCSE sector participant).

Another strategy deployed to tackle and address need around digital exclusion is the creation of community spaces that aimed to reduce the stigma around need of support concerning access to the digital, isolation and loneliness and difficulties with affording energy bills. Instead, these community spaces (known as Warm Welcome Spaces; see section 2.3 for discussion of wider impact as part of the Birmingham Digital Inclusion Strategy) were about creating hospitable places. Places where citizens could go and use the Internet, receive warmth and food and have a conversation with other local residents. These spaces were about ensuring the dignity of citizens and building a vibrant sense of community based on positive experiences facilitated by the pleasures of being together. Notions of conviviality, joy and sociality (Neal et al, 2019) were the driving principles behind Warm Welcome Spaces:

One piece of work that thrive is working the collaborating with the city on the local authority on is something called warm Welcome Spaces, which has been a response to the austerity piece. But we're very kind of quite motivated by dignity as an important part of the way in which we connect with people. And so that stuff is called warm welcome spaces, not warm hubs. This is not about people having to demean themselves to say they can't afford to turn their heating on. Instead, we're concentrating on offering hospitality. Warm Welcome Places are about meeting people. Actually there is a whole host of really positive things that we can do in that space (VFCSE sector participant)



KEY FINDINGS

2 Experiences and Impact of the Birmingham Digital Inclusion Strategy

2.1 Digital services provided and registered across Birmingham.

The current landscape of digital facilities provided across Birmingham is diverse, ranging from informal support to formal training and capacity building courses. Table 2 shows current facilities offered by local organisations are communal/public access to devices. It demonstrates there is good coverage of informal support currently being provided across the city, with 50%, 68.5%, 43.5% of the 108 organisations that responded to the survey saying ‘yes’ to delivering communal access to devices, informal digital skills support and free public wi-fi on site respectively, evidencing the work local community organisations are doing to scaffold digital skills and capacities as well as offering spaces where citizens can go and use to upskill themselves around the digital. Where there is an underdevelopment of provision is around media and news literacy when engaged online. 51.9% (for media literacy) and 48.1% (for news literacy) of organisations said ‘no’ to providing such support, yet almost a quarter (23.1% for both media and news literacy support) of organisations mentioned they would like to offer such facilities. The provision of news and media literacy support would embed crucial employability skills, contributing to the wider economic growth of the city by upskilling more citizens for jobs, as well as political capacity in which by training citizens in how to access information online and fact check they will be able to become more actively, involved citizens (e.g., pay bills online, know where to go and who to contact about accessing specific local services, and engage in the wider democratic process).

Digital facilities/response	Yes	No	Would like to offer this
Communal/public access to devices	50%	40.7%	9.3%
Device donations directly to the public	36%	42.6%	19.4%
National databank	15.7%	65.7%	18.5%
Formal digital skills training (such as a course)	38%	33.3%	28.7%
Informal digital skills support (ad hoc queries)	68.5%	16.7%	14.8%
Media literacy training (how to create and share own content online)	25%	51.9%	23.1%
News literacy training (how to fact check news/ information seen online)	28.7%	48.1%	23.1%
Free public wi-fi on site	43.5%	41.7%	14.8%
Support to access affordable home broadband deals	20.4%	49.1%	30.6%

Table 2 - Digital facilities local organisation offer to citizens

With regards to the digital offers local organisations have registered with, 38.9% of respondents have registered with the NNS/Neighbourhood Network Scheme, while 25.9% have registered with the Good Things Foundation Online Centres, 10.2% with Barclays and Birmingham City Council Digital Champions training, 26.9% with Birmingham Warm Welcome Spaces, and 24.1% with both Early Help and Food Banks. This data suggests that the digital services that local organisations are signing up to is directly linked to the bolstering of informal support provision, with the exception of the digital champions scheme whereby 62% of the respondents were not registered. 15.7% of organisations indicated that they would register and 12% highlighted they needed greater support with registration. Both were the highest percentages across the ‘I will register’ and ‘need help to register’ categories. Resources, therefore, need to be directed to supporting local organisations to register with the digital champions scheme to build capacity at the micro level and enable active community involvement in addressing digital exclusion (see Sections 3.4 and 3.4.2 for detailed discussion of the role of the micro level of the relational model for sustainable digital inclusion and digital champions).

Digital offer/response	Registered	Not registered	Will register	Need help to register
Good Things Foundation Online Centre (National Databank)	25.9%	50.9%	13%	10.2%
Barclays and Birmingham City Council Digital Champions training	10.2%	62%	15.7%	12%
Birmingham Warm Welcome	26.9%	57.4%	6.5%	9.3%
NNS/Neighbourhood Network Scheme	38.9%	41.7%	11.1%	8.3%
Early Help	24.1%	62%	4.6%	9.3%
Food Bank	24.1%	63.9%	5.6%	6.5%

Table 3 - Digital offers organisations are registered with.

2.2 Birmingham Device Bank and Connected Services Programme

There were two main device schemes as part of the Birmingham Digital Inclusion Strategy. These were:

- Connected Services Programme
- Birmingham Device Bank

The Connected Services Programme was a scheme aimed at VFCSE organisations who support digitally marginalised groups (e.g., refugees, older people, people seeking cost-of-living support, disabled people, people experiencing/at risk of homelessness, people in temporary accommodation and so on) to apply for new devices to be either gifted directly to citizens in need or used to support digital inclusion activities and support provided by organisations. The Birmingham Device Bank, on the other hand, is a scheme that repurposes digital devices used by Birmingham City Council and makes them available for free for VFCSE organisations and community groups throughout the city. These digital devices include laptops with power adapters, and desktops with monitors, keyboards, and mice.

Table 4 illustrates which digital device scheme the 108 respondents to the survey had applied for:

Device scheme	Number of organisations
Connected Services Programme	35
Birmingham Device Bank	50
Not sure	26
BDB and CSP	1
Total	108

Table 4 – Device scheme applied for.

These 108 respondents received 2,487 devices collectively from across both CSP and BDB. These devices are benefitting 11,919 citizens a year, averaging 5 citizens per device. Receipt of these devices has enabled 33 organisations to amplify the number of digital skills sessions they deliver, and 35 organisations to start delivering digital skills sessions (see Table 5), resulting in 551 additional digital skills sessions being delivered across Birmingham per month, averaging 5.6 new digital skills sessions per month per device.

Have devices increased number of monthly digital skill sessions to citizens	Number of organisations
Yes	33
No	50
Did not offer sessions before devices	35
Total	108

Table 5 – Relationship between devices and increase in number of digital skill sessions provided to citizens.

The ways in which VFCSE organisations have used the devices also varies. Devices are mostly used to deliver teaching of new skills to citizens (65 organisations), with the second largest use of devices being to gift them to citizens (50 organisations). Other uses include: use by staff in organisations (43), communal devices for public access (40), loan devices for citizen use (32), and other purposes (25) (see Table 6).

Device use	Number of organisations
By staff in organisation	43
Communal devices for public access	40
Loan devices for citizens to use	32
Gifted to citizens	50
Teaching new skills to citizens	65
Other	25

Table 6 – How devices are being used?

45 respondents stated they still need more devices and collectively have requested 2,539 devices of varying types to support the work they deliver in the community (see Table 7).

Device type	Number of organisations
Mobile handset	16
Laptop	40
Desktop	5
Tablet	29
Accessibility hardware/software	10
MiFi (mini portable wi-fi units)	15

Table 7 – Additional devices requested (by type)

2.2.1 Experiences of BDIS: positives and negatives

A common theme raised in the interviews and focus groups with participants in this evaluation study when asked about experiences of BDIS was the role and function of the multiagency partnership approach. Participants praised it for being innovative and working well in mobilising digital assets and getting devices into local communities:

what’s worked well is they got their strategy out there early. They had a good multidisciplinary team together. I think they were inviting the suppliers or people they wanted that that knew they wanted to be suppliers. I think that kind of making their intent clear, getting some of those that could get the equipment out there was really good. You know, getting those kind of Mifi devices working with the community groups, I think that was all great (Private sector participant).

[named person] has an outward facing role and their into innovation and partnerships and working with external partners to try and get things done in Birmingham. So it doesn’t have a big budget, but you know, they’ve tried to leverage relationships with partners. And that’s pretty much the approach that the strategy for digital inclusion is based on, you know to coordinate with various public sector bodies, private companies and you know, charities, community groups (Public sector participant).

The multiagency partnership approach of BDIS was not only commended for the mobilisation of digital assets, but also establishing networks between different organisations across the city, reducing potential risk of duplicating provision and instead bolstering support through a more coordinated effort:

we got 5000 Chromebooks and a few other bits and pieces, and they’ve had direct impacts on the people that they’ve been given to. And we’ve actually distributed those through the Birmingham Voluntary Service Council. So it’s gone to the places where actually there’s greatest need. So that’s had a genuinely positive impact and I think the other big positive impact is when I started out on my journey in, you know, trying to become a system leader addressing just inclusion, I didn’t know where to start and actually that stakeholder group, the governance group of the programme of work at in BCC, really helped me to build a network of people who I could talk to and establish relationships and understand stakeholders, understand the complex environment of digital inclusion because there are many organizations working in this space and actually is a risk that you’re going to duplicate effort and it helps to coordinate that work (Public sector participant)

Private sector participant maintained that while their overall experience of BDIS was positive, they had noticed the energy, motivation and focus for the strategy decline over the 18 months of delivery:

What has my experience been like? It's been, quite tough and this is me starting to be a little bit candid. They were working for it last year and I felt it was more structured. It took a bit of time to work out the work streams. We had different parties coming along to the meetings and there was a lot of sharing of knowledge and sharing information activity around there. Umm, so I think that was positive. We weren't so good, actually agreeing the groups that we should be focusing in on and then cracking on and delivering against them, so that in the last year that's got better as part of the focus. Having said that, I think as a group we were much more aligned. We also knew far better what was going on across the different work streams. And people were contributing. If I look to this year, I think we've lost our way a little bit. Umm, we've lost the Birmingham chaired approach and it's now third party chaired. So personal view is that that has that's lost something because, well because Birmingham [City Council] really interested in this. So they really investing time or effort when it's now third party chair to look at it

The reason for this was constructed as a consequence of the lack of direction towards delivery, locally. This can be seen in the quotation below where private sector participant maintains that there needs to be greater guidance and scaffolding of BDIS by local expertise, either BCC or another key Birmingham based organisation, both in terms of the delivery of the strategy but also priority and agenda setting within the workstreams too:

We need Birmingham skin in the game to demonstrate that this is something important for them, whether that's by chair or by project management. We then also want to have Birmingham people aligned with the work streams. But where they're going to get benefit. So in the education and digital skilling workstream, there were three or four other companies and we all had the same issue. We've all got training and education at different levels. Level 1 through to level 5 that could be made available for Birmingham citizens to adopt. It's a bit of a Venn diagram and some the circles are completely separate. What basically was needed was Birmingham [City Council] needed to identify.

Another critique of the enactment of the multiagency partnership approach was the underutilisation of private sector resources. Private sector stakeholders had the necessary software assets to build the required infrastructure to enable delivery of digital skills support sessions to local citizens and communities. However, these were not adapted as the data extract below demonstrates:

[Named company] have hundreds of learning paths and thousands of hours of training education. That's not available to the Birmingham citizens to adopt. We've got LinkedIn learning where they are. Ohh sorry it is available, but there's no conduit. There is LinkedIn learning who's got a number of courses. They've got 10 specific roles where there's a learning path to people to cross training to that role, and these are the 10 most useful digitally aligned roles, project Manager, program director, marketing that we identified at the start of COVID and all the way through. So with LinkedIn, we can identify the 10 most needed roles in the digital that organizations need to have so we've then stood up training education to help people move and pivot towards that. So they can go into the area where there's most skills needed there. Also, education within LinkedIn on CV building and interview preparation and a number of other roles free of charges available for LinkedIn. There's also a ton of accessibility capability with using [named company] technology that people could be adopting, so there's all these areas. There's Enterprise Skills Initiative, which is free education, training and funded certification for the Birmingham employees to adopt to help with their digital scaling as well. None of that is really being adopted or driven in the first year (Private sector participant)

Adopting a commercial model was identified as a possible solution to ensure the embedding of digital infrastructure. Public sector participant highlighted that not having a commercial model in place was a wasted opportunity for the Birmingham Device Bank. Having a commercial model would have maintained interest, motivation and focus, while also allowing for the setting of clearer targets which could have been delivered against:

Birmingham Device Bank, I feel like it's been a wasted opportunity and that's because we haven't been able to support it because we needed a commercial model to be able for us to be able to engage with them and risk share. And they've only just developed a commercial model that's going to allow that to happen. And that's nearly two years down the line from us having those conversations. There was a huge amount of impetus, in NHS organizations. When I first presented on the Birmingham Device Bank because everyone was really excited and they wanted to get involved and we wanted to recycle our old devices through their bank, and then it petered out because the commercial model wasn't forthcoming. So this isn't criticism of the Council, but it is just scase of if you say you're gonna do a thing, you need to do a thing and then you need to do it in reasonable timelines, because otherwise people lose interest.

Participants praised the simple process of receiving the devices as part of the Connected Services Programme. It was constructed as efficient, straight forward and easy to understand:

Easy, really easy. There was a simple form to fill out and as long as you can answer the questions about why you need the devices, it's pretty easy really. And then obviously then I got notified that we got awarded the devices and then there was a booking system to go and collect them. And again, really simple system. I walked in and met the team. They was the questionnaire that I had to fill in. Really, really quick as well. Look, as I normally with these sort of things, you kind of just like a delay with a you know, but no really, really quick, really efficient, really easy to do (VFCSE sector participant)

The form was really easy to complete, a really simple process, very clear, sent it back. They asked how many devices you'd want, so we initially applied for a number of devices that would see through the length of a three-year project...And the accounts came back really quickly and said actually they're gonna be used by November. So it could be distributed and then this. It's whatever you can do in that time, so [named person] got back and requested for the immediate proof of clients (VFCSE sector participant).

What appeared important to some participants was the limited amount of data provided through the Mi-Fi boxes. Having access to sizeable data packages or options was understood as crucial in addressing the digital poverty experienced by some marginalised groups. Data extracts highlight how the circumstances of digital poverty (e.g., living with limited access to online, or not having enough data so have to ration what availability they do have) can be alleviated simply by allowing them access to more data:

I think there's always a need for data. I know you know, through our interactions with our clients that and when people talk about ohh that's an app you can put that on your phone, that's an app. Yeah, a lot of them don't because of the data restrictions that they've got through their phone packages or they're saving their data for like the things that really mean to them. So they don't get, they don't always get unlimited data on that phone package that's available to them and stuff. So a way to make that more long term definitely I think is useful. I know that the ones that we've got at the moment are you've got 150 gigabytes until the end of March. So whichever go happens first, but sometimes after like about three months, four months, six months, people are sort of like reaching out and saying I need more data (VFCSE sector participant).

The only extra thing that they could probably add, I think the Mi-Fi boxes were a little bit restricted in that it was 150 MB of Wi-Fi and the Chromebooks only work on Wi-Fi. So if they're not linking to a Wi-Fi, that just makes it, that's another obstacle that they need to kind of overcome. When our clients are put into accommodation, and they don't have any Wi-Fi at all. So once that 150 MB finishes it another barrier there. I am part of the national data bank, which will obviously make it easier to be able to kind of when that data runs out to kind of give them that resource. But that means they have to come back to me to get. SIM card to activate it (VFCSE sector participant).

Frustrations were shared towards the lack of consultation and coproduction with local communities regarding the type of devices distributed via the CSP. Engaging in coproductive practices would have allowed the WMCA to target digital assets based on need. Instead, devices were distributed (e.g., Chromebooks) that required a sufficient digital knowledge or access to the internet:

I don't understand how the combined authority without talking to anyone on the ground made a decision that we needed a load of Chromebooks because Chromebooks are a very specific device. And they don't work at all without an Internet connection. So the moment that someone loses data, they will never be able to use it. Now they gave them with Mi-Fis to start, but that will get someone so far. I think they got 150GB of data. So as long as they don't have someone who starts downloading videos at home. But I just don't quite get it. I don't understand when it's frustrating that the combined authority made those decisions about what they were going to buy and give to the digital inclusion team. Without that being a process of finding out what it is actually needed on the ground (VFCSE sector participant).

The Birmingham Device Bank also had similar issues. Because the devices were reformatted, they came without any of the required licenses or operating systems. This made it challenging for local organisations to use the devices to offer support for digitally excluded citizens:

one of the most disappointing things to me was some devices that have been given to people, to organisations, didn't come with the licences or didn't come with anything loaded up onto the devices. Um, and that just might, you know, don't get me wrong, that's still making it much cheaper for groups because they're not having to buy the devices. But they've then got the responsibility of trying to find the money to find to fund those licences so that they're actually usable. And so I think that was a bit of a short sighted way of doing it (Public sector participant).

Receipt of devices was an emotional event for some citizens. Participants observed how the distribution of devices to those in need resulted in feelings of being overwhelmed, of recognition that someone cared and is allowing them a possibility of leading a 'normal', digitally included life:

but a fair few of them I know cried and all were very touched, and especially when you've had families that have had various issues accessing stuff, I think for a lot of them it felt like a bit of like relief. Like they could enter the world at a different way. So we are going to write some of those up, but I know from many of the support workers I don't support but they do and I work in the same building as them often going to come up after they'd seen their family and say it was really impactful for the family (Public sector participant).

Yeah, I mean it has, it has made a massive effect on the clients. Like their teacher was like you know you need to have teams you need to have a thing to access this course and they weren't able to access it and the college wasn't able to give them a laptop or anything. So they were just so stressed and they didn't know what they could do to in order to continue with the course. But when I provided them with one they were like I can't believe it. They were really really overwhelmed and I'm very grateful. So it just allows them to be able to educate, be able to carry on with their lives, to take the next steps as well. And they have been really, really overwhelmed and so grateful. It's so emotional just allowing them to, you know, try and start to lead a normal life, you know, without having another barrier, because all they do is get faced with barrier after barrier. But it's just allowed for one barrier to be lifted for them (VFCSE sector participant).

The final theme that emerged from participants' discussions on their experience(s) of the BDIS was how the delivery of the strategy enabled a community of learning; sharing and engaging of both knowledge and assets (see section 3.4.4 for a discussion of the importance of embedding communities of learning as part of a relational model for sustainable digital inclusion). The extract from VFCSE sector participant below evidences how they were able to pass on learnings by gifting citizens familiar devices to the ones they have been using during skills training sessions:

without even consciously thinking of it, we're passing on some learnings to them by us using the devices that they have been given. So they see it as a familiar device. They don't see it as your device is different to the kind of device that you're giving to me. So who do I reach out to for how? If I've got a different device to you, but I'm seeing you regularly, it's that kind of thing. Yeah, just that having that little mind shift enables them to see that we're working like then we look like them. We're using devices like them. It's the same equipment. We're in the same boat as them kind of thing, yeah.

The enactment of shared knowledge and learning was an important, positive outcome of the BDIS. VFCSE sector participant demonstrates how their organisation was able to entrench independence within their service users so that they can continue using the skills they have learned and apply them to their everyday life, facilitating long-term digital inclusion:

When they move on from [named organisation], they can continue that themselves and not having to seek support and support workers to help them through that process. And I think the same with bank accounts and applying for jobs so much that it's done online now. So we can sit and do that with somebody, but on a device that they can become familiar with and be able to use at home as well, it's for creating that independence and resilience. And so yeah, ability to manage their own life (VFCSE sector participant).

2.2.2 Strategies of distributing/using devices

VFCSE organisations by and large distributed the devices they received via the Connected Services Programme based on need. Data extracts below demonstrate that need was used as a marker for distribution to ensure maximisation of impact and the embedding of support to build capacity and employability skills through digital technology:

So the tricky thing was how we had to do it, bearing in mind we've got about in Birmingham 250 tenants, I think or more and who are in our houses then we have the entrepreneurship and employability side of thing. So the training side of things where we have clients who really, really need these laptops because with tenants they're just about getting settled into the house and they're not always interested in, like jobs and self-employment. So how we select is on the training side of things, so the projects entrepreneurship and employability and there's so many of our clients who needed to apply for jobs, who need it to access our Moodle platforms for employability related topics like CV skills, interview Skills, CV, writing in terms of employability, side of things, when you have a business to manage and handle that business and to be able to do research, you definitely need a laptop. And I just want to say this is exactly how it's supported our clients. So I asked my staff so I lead the team and they've got a delivery staff. Who? A group of delivery staff who have clients. So I asked them to get some feedback off their clients as well and how it supported them, but it's been great. You know they're applying for the employability. They're applying for jobs, they're supporting their children with some interactive stuff that they need to do online, which is wonderful, right? It's the supporting with integration and then for employability, the entrepreneurship side of things, they're using it towards their business to contribute towards stuff like business plans and you know the marketing side of things. So it's doing great. It's really supported them (VFCSE sector participant).

There needs to be some sort of evidence that's given by the client as to what they're going to use it for and have it would benefit them partly so that we can kind of evidence the benefits of having done mix, but also so that we can kind of as much as possible cut out people that would just say yes, they having a laptop, you don't really need one, but it just feels like a great opportunity to get something for free because we've got 30. So we don't wanna just give them out, really, you know (VFCSE sector participant).

Because of the diversity of vulnerability and complexity of need (see sections 1.1 and 1.2), a number of different groups benefited from receiving devices as part of the Connected Services Programme, including refugees, socioeconomically marginalised young people and victims of modern-day slavery:

I was focusing on clients that are put in accommodation other than hotels put into hotels. The reason being was for clients in hotels, which we're going to allow to put in at 7-10 laptops in each hotel and it would be more of a communal space where people could go in and everybody in the hotel could use it But however,...we needed someone who could come in and for GDPR go and wipe the laptops clean for when the next user goes on and to ensure that there's no data kind of saved on it (VFCSE sector participant).

we've got nearly 100 young people in our in our community. So again, it's very easy to identify really, because obviously I've worked with them, some of them for like 12 months, 18 months. So I knew where their barrier was, particularly around digital. We considered them [devices] going out to other agencies, but I would rather support somebody, a young person. Again, I'm trying to be really like, obviously we work with young people and want it to be young people to get them. And again, if somebody over the age of 25 comes to me, I wouldn't say no, but obviously I'll probably would be like, yeah, that's fine. But I wanted to just get it to young people to start with because that's our niche demographic (VFCSE sector participant).

we are applied for 35 Chromebooks and got 35 which is fantastic. And we put in that application based on known vulnerabilities of the clients who we work with, we've got a cohort of 35 survivors of [modern day] slavery. There are our priority group and who are most digitally excluded, and probably most likely to benefit from them. It was about prioritizing those that have got no device at all and we've been able to prioritize those who and who are needing (VFCSE sector participant).

There was also evidence that devices received via the Birmingham Device Bank had a positive impact on the level of support provision provided through VFCSE organisations. Data below demonstrates how the BDB afforded local community organisations to strength preexisting capacity by sharing digital assets and thus widening the geographical spread of where citizens could receive support around digital poverty:

Our office is in [named location], and that has the autism team and the mentoring team and a couple other teams. So I put some there, some here at the Children's Centre in [named location] and then early help also so one is in [named location], one is in hotel and so we basically distributed all devices amongst those four different offices and it meant that different places had access to the devices. I made an internal split just so we knew how many were at each place and kind of who was signing them out, not families but professionals, who were signing them up and it meant that lots of different teams had access to the laptop so it's all again it's all one service it's primarily about managing children' need where they have slightly different access points (Public sector participant).

We're promoting the what's called the national data bank where organizations that are registered as online centres can apply to get an allocation of data, so SIM cards with the data allowance for free that they can give to the citizens that they're supporting and that gives people access to mobile data, which normally they would have to pay for, you know. So it's sort of like cascading these things really through the Community support organizations (Public sector participant)



2.2.3 Case studies

Homes and Money

Case Study 1

Asif's mom was connected into the Homes and Money via mediated support offer by Spitfire at The Shard, where she was booked for a Housing Benefit and rent arrears appointment. As Spitfire are currently not able to access all the BCC platforms, H&M advisor was asked to assist to interrogate the RBIS system

As part of the holistic conversations with the resident the H&M advisor identified immediate opportunity for digital support offer:

1. Family was unable to afford current broadband and mobile phone contracts
2. Asif's mom had limited digital skills and low confidence to self-serve
3. Asif's sister was in the process of looking for a job and needed access to internet
4. Asif himself is severely autistic (attending specialist college) – and needing a laptop to assist with his studies and social interaction online

Result: The household have received 1 Wi-Fi Hub (12-month home broadband), 1 SIM card (20GB per month and free UK calls and unlimited messages), 1 Chromebook and Asif's mom increased her confidence in IT skills by attending a training offered by the Barclay's Digital Wings at The Shard. Additionally, thanks to receiving over £5k in income max, family's monthly disposable income moved from a negative (-£291) to a positive figure (£214).

Case Study 2

A retired resident and a frequent visitor to NAIS in Erdington and Contact Centre required assistance with filling LWP application. Based on the GROW conversations with H&M advisor it became clear the resident required digital support (skills and device) to be able to bid for housing transfer, complete benefit forms and connect to family and friends to maintain wellbeing.

Result: Resident received a Chromebook and Wi-Fi Hub via WMCA programme and has been connected to BCC Adult Education Centre. He was provided with a prospectus and decided to enrol into a Digital Skills course starting in September 2023.



The Project Case Studies

Case study 1

David lives in a bungalow in Shard End and is 52 years old – he has physical health issues such as rheumatoid arthritis and can only use one hand. He called us for help with a PIP claim as he is poor reading and writing literacy and no digital literacy. Unfortunately our funding to work with people over 50 had come to an end. This was explained to David and we started to sign post him to other organisations. David had contacted the other agencies already who had advised that they were not able to help him due to funding issues. David said that he had given up work over the last few years to be a carer for his partner who sadly died in January 2023. He explained that his partner managed all the finances and that he didn't even have a bank account until this year and so was working out how to do things. He has struggled with the bereavement and rarely leaves the house other than to go to the bank. It was clear that David was struggling and that he had become more and more isolated. David didn't have a laptop or wifi and was trying to navigate services on his smart phone which was difficult. He explained that he it was on his agenda to save up to get one. We opened a case for David to do a financial health check and to support in claiming PIP and how he can repay his Birmingham City Council arrears. During the phone call, David was offered the Chromebook and MIFI box – he was taken aback that we had offered to support him and that we were also able to gift him a chromebook. David has a neighbour that he said would help him to set it up. The next day we took the chromebook to David. He said that he has thought that he would look to go to some computer classes at his local library and that actually having the laptop will help him to get out of the house, potentially meet new people and move on with his life.

We called David to see how he was and how he was getting on with the Chromebook. David was able to set up the laptop himself as the guidebook was easy to use. He is also due to start computer lessons at his local library and they have accommodated him by letting him bring his own Chromebook in so that it is easier for him. David has set up his bank account and all of his bills and has done quite a bit towards resolving different areas in his life! He is also exploring options of returning back into the work place. He is looking forward to going to his computer lessons and said that he was quite excited about it – different to how he felt when we first had contact. The simple gift of a Chromebook and Mifi has really created change, given encouragement and hope for the future.

Case Study 2

Paul contacted us for support with housing as he lives in shared housing in the exempt sector. He felt at quite a loss as didn't know where else to turn for support and the job center had given him our details. Paul is 49 years old, has mental health and partial visual impairment. Paul used to live in Manchester and moved to Birmingham following the breakdown of his marriage and he is also recovering from alcohol dependency. Paul called us for a foodbank voucher and to talk through housing options. Paul used to be an engineer and would be interested in regaining work as well. We discussed housing options for Paul – he said that he would look at applying to housing associations mentioned. He didn't have wifi in the property where he was staying and was using his phone to complete applications. I asked if he would be interested in a Chromebook and Mifi box. Paul literally couldn't believe it and was close to tears "because these things don't happen to him". Paul said that he had saved money so that he could buy a laptop however someone had broken into his room, taken his card and money. Paul said that he couldn't believe it and that we had given him hope. A member of the community called that day to donate 2 duvets – I offered Paul one and he said that he would be grateful as the one that he has is not good. Paul was really grateful for the Chromebook, Mifi and duvet! Shortly afterwards we found out that Paul had moved to a much better place and was doing well!

Case Study 3

The Project is part of a forum called the Violence Reduction Partnership in East Birmingham and an email was sent from the police to see if any of the partners could support a local organization in Nechells who had unfortunately been broken into. The organization is a local church and had set up a project called Misfits to support the local children in the community. We contacted Birmingham City Council who advised that we would be able to donate 2 laptops and Mifi boxes if we wanted to. We contacted the organization who were very overwhelmed that we could support. The group had just recently set up and had 2 old laptops, wii box, playstation and all other equipment stolen. The group works with about 20-50 children to support in homework, after school activities and giving a warm and positive place to come during difficult times. The Project and Misfits had never worked together or had contact before and through being able to donate the Chromebooks we have supported a small local organization that makes a positive impact in the lives of young people. We have also agreed to keep contact with each other and have since provided support to Misfits around connecting to other agencies and funding options.

We have also worked with Lench's Trust where we will be delivering welfare benefits information, advice and guidance to people over the age of 55 years old. The service will maximise income for people in Lench's Trust and to alleviate financial hardship. It was agreed that 2 laptops could be provided to 2 of the older people sites so that these can be used by the tenants to improve digital literacy. The welfare benefits work that we undertake will also include helping people to set up email addresses and to navigate online accounts such as council tax, benefits, health etc. The laptops will be based in 2 of the Lench's Trust sites providing access to approximately a further 160 tenants. Lench's Trust staff will also support the digital learning of their tenants and encourage the use of Chromebooks for the above as well as to develop confidence in using digital items and connecting to others and community activities therefore reducing isolation and loneliness and potentially improving wellbeing.

Case Study 4

Annie is a 34 year old lady with 2 children and in April this year contacted us for support with universal credit claims. Annie said that she is an African national who came to the UK and as her passport at the time didn't state that she would have recourse to public funds, she had to rely on her husband. She explained that due to domestic abuse she had never had control of money and that for years she has experienced emotional and physical domestic abuse and was made to believe that she would not get any support if she left him. We discussed her entitlements to benefits. Later in April 2023, Annie said that she had left the family home with her children due to domestic abuse. Her daughter is 12 and son is 10 years old and they now live in a refuge and receiving support. The Project have remained involved in regards to providing specialist support relating to benefits and debt. Unfortunately Annie does have some debts however we are looking to find ways to maximise her income as well as appeal some of the debts due to her situation. During our work with Annie, it was identified that she did not have access to a laptop – we offered the Chromebook to support with benefits, housing, connecting and also for the children to be able to use it for school work if needed. Annie was also really overwhelmed. Annie said that as Christmas will be a bit difficult, she is going to keep the Chromebook as a gift for her children this year.

2.3 Warm Welcome Spaces

One of the central concepts and initiatives of the Birmingham Digital Inclusion Strategy was Warm Welcome Spaces. VFCSE sector participant explained the idea of warm welcome spaces as not only a space where citizens can receive digital skills support and assistance, but also a place where citizens can go and receive a convivial welcome (e.g., being greeted with a cup of tea and a biscuit and engaging in friendly conversation):

the idea is it's just a case of actually letting people know where there is community space that is open for a couple of hours a week where they don't have to pay for anything and they can be guaranteed a warm welcome invitation into a conversation, a cup of tea and a biscuit at as a bare minimum. And that's what it's about. It's about, so it's focusing more on the personal connection rather than the need to be keeping warm. And obviously they started in winter and the council put some money into that so that buildings could continue to remain open because obviously we have the energy bills crisis for community organizations as well. A lot of them continue through the summer, so it wasn't just for actually once they got going, they create this safe community space that is growing in this community building, really allowing people to connect and then then introduce devices into that mix really (VFCSE sector participant).

The introduction of warm welcome spaces across Birmingham have benefitted from fostering the transformative potential of habitual social interaction to mitigate the wider social inequalities that impact the daily lives of citizens who are most digitally marginalised. The Connected Services Programme was constructed as bolstering warm welcome spaces by allowing these community hubs to deliver digital skills support to disadvantaged citizens through the engaging and sharing of knowledge at the micro level (see section 3.4.4 for a more detailed discussion):

We've had 135 devices and we've been rolling them out into some of our warm welcome spaces because we've identified those as community spaces where the most digitally excluded are likely to appear. And it's a social space, so it's not a learning space per se. So if we could get some access to devices and we'll be giving them out in twos to those places. What might we learn about how does that work? And so where there is someone, a volunteer or someone who's present who has some of those skills, it's working and they are able to get these devices out there. They can sit alongside; they can help people to start to have a go where there isn't enough expertise or there isn't quite that the trust that you can just leave a device out. It's become more complicated, but there are ways to do that. There are ways in which you can look at where are the social spaces that people gather, where there is a sense of shared ownership of a space. How is it that we start to resource some of that and then the partnership that I lead on, we've done some of that kind of seeding if you like? And then wrapped around that access to a very basic entry level kind of course delivered by Digi Kicks. I'm sure you've heard of. You know that that kind of inner social coffee and cake kind of way starts to give people some of those basic skills for themselves. So we've seen it happen and that's what we're trying to support (VFCSE sector participant)

Not only did the Connected Service Programme afford more warm welcome spaces to become sites of communities of learning, but also allowed for devices to be distributed to digitally disadvantaged citizens, further bolstering digital capacity and reduction of digital marginalisation:

So for example, with the Connected Services Programme which is a fairly recent thing this year. In the last six months and we have been distributing devices, Chromebooks, to warm spaces and we've delivered 100 devices to about 50 warm spaces and they've kind of provided support. They've actually issued the Chromebooks to citizens and set them up with the devices, you know, before they take them away to make sure that they understand how to use them (Public sector participant).

2.4 Overall impact of the Birmingham Digital Inclusion Strategy

Overall impact of the Birmingham Digital Inclusion Strategy was positive. According to latest figures on digital exclusion in Birmingham (Bionic, 2023), 22% (251,879 citizens) are identified as 'internet non-users' and an additional 23.3% (266,761 citizens) are 'limited inter users'. In total, 45.3% of Birmingham citizens are experiencing digital poverty. The implementation of BDIS has supported 33,000 citizens to get better access to the digital. This is a 6.6% reduction of overall digital exclusion across the city. Moreover, the total investment of BDIS has cost £1,650,000. £1.1m came from the initial West Midlands Combined Authority (WMCA) investment. BCC gave £550K, which included the funding for the Birmingham Device Bank. These investments do not include the contributions that have come from the VFCSE sector – e.g., once a community organisation picked up the devices, they frequently gave their own unpaid time to support citizens (equating 2.5hrs per device).

With an investment of £1,550,000 having impact on 33,000 citizens this has meant there has been an expenditure of £47 per citizen, with £13.60 coming directly from Birmingham City Council. Based on such costs (£47 per citizen), the evaluation has calculated it would cost £23,000,000, an average of £2,300,000 per constituency, to tackle digital exclusion for the remaining 39% of citizens recognised as being digitally excluded (485,639 citizens).

This demonstrates that BDIS is not only having an overall positive impact on citizens of Birmingham, but there is a need for device schemes such as the Connected Services Programme and the Birmingham Data Bank. Majority of respondents (88) of the survey denoted that BCC needs to prioritise sustaining such offers, with 19 further respondents maintaining availability of digital offers is important but should not have precedence over other priorities:

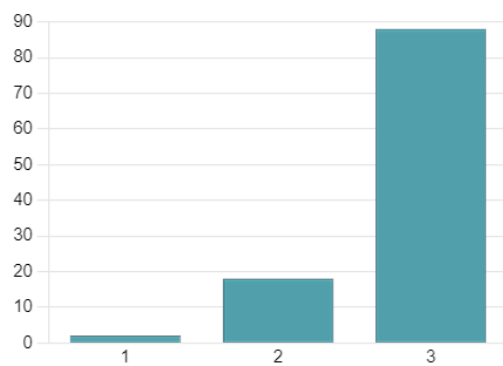


Figure 5: How needed do you think device schemes like this are for the community of Birmingham?

Key:

1. I don't see this as the responsibility of the Council to offer
2. Nice to have available but not a priority over other things
3. Vital - we must prioritise sustaining such offers

There are multiple legacies of the Birmingham Digital Inclusion Strategy. The main legacy of BDIS, however, is that it opened conversations around the digital and digital exclusion, creating networks and communication between different public, private and VFCSE partners and evidencing best practice for what a multiagency partnership approach to addressing digital poverty looks like:

greatest success actually has been as a talking shop. Does that make sense? But not in a not in a critical way. It specifically facilitated the creation of a network, and that's gonna be its great legacy (Public sector participant).

I think that's one of the main things I think the strategy has done as starters. It has made the conversation about digital literacy at the forefront of what the council were thinking about, but also some voluntary sector as well. And so even just having that conversation has been beneficial. Just by the fact of introducing this strategy has had a somewhat of impact in raising awareness of digital exclusion, that this is something we need to be doing and focusing on as maybe as a core service delivery or what have you (Public sector participant)

A bare minimum is maintaining that stakeholder network and those relationships. I think there is something about looking at what legislation exists that can help us to nudge organizations into delivering on this agenda. And I think that's going to be the focus of the policy work stream that I'm going to work on. (public sector participant)





KEY FINDINGS

3 A Sustainable Digital Birmingham

3.1 Governance model (developing a multiagency partnership approach)

The central issue BCC had when implementing the governance model for the BDIS was that digital inclusion is often worked up as a 'wicked problem'; that is, it is a problem that lacks any definitive solutions (Churchman, 1967; Rittel and Webber, 1973); and also has no definitive way to describe these problems. This was best captured by public sector participant 3, who recommended that the complexification of enacting a digital inclusion governance model provided an opportunity for BCC and its public, commercial and VFCSE partners to think through how best to implement digital inclusion to the benefit of citizens and local communities:

I think digital inclusion is pretty much the definition of a wicked problem. And how would you solve wicked problems? Well, through collaboration and plurality and there are no simple answers. And so I think we need to lean into the complexity and actually the complexification that's happened around this problem in the regional economy reflects the complexity of the problem. I think all you would need is actually a little bit of a steer and alignment to actually really start to make things flow. But I think we need to strengthen that and actually build those effective relationships. And then there's something about how resources and communication flows through that network, but that that is the legacy of this two-year program for me (Public sector participant).

The BDIS utilised a relational model that was innovative, inclusive, and impactful. Data shows the BDIS' approach of bringing together the council, with key public, commercial and VFCSE partners was effective in identifying an overarching strategy of delivery. Something which had not existed within Birmingham before:

I think partnership working has set a good foundation for future work. There has been pockets of activity that happened, but what has been is is that there's been a big, overarching strategy with strands that comes from it. And so there's a clear vision (Public sector participant).

Data also pointed to a conceptualisation of the BDIS which enabled addressing digital inclusion activity across micro-, meso- and macro- scaler levels ensuring the delivery of BDIS via a range of avenues; from building digital skills and capacity on ground through VFCSE organisations and community hubs (e.g. use of Warm Welcome Spaces and the mobilisation of digital citizens, see sections 3.4.1 and 3.4.2), working in partnership with private partners (e.g. ensuring resourcing and digital infrastructure) and having BCC broker relationships and bring different organisations together, creating a space for knowledge exchange and policy priorities regarding digital inclusion in Birmingham:

Setting up of a governance structure, I think is a good way to demonstrate city resilience. I think that's a really, good best practice that ensures that other people have a say in how things are delivered. I think that that's been a good thing to have a good partnership like that. I think the setting up of the device bank, changing a City Council policy to enable us to recycle our devices in in a way that we are forgoing funds but making sure that what we're delivering into the community has provided great value to them and putting a mechanism in place to ensure it's those organizations that need that are getting it. We took a deliberate approach to make sure it was just organizations who could apply and make sure all those organizations had the right credentials to get the access to the devices. And those devices could then to the be added to citizens, but it would be impairing those community groups to make those decisions, because those community groups are the ones that understand their community better rather than individuals applying to us, whereas with with us not really knowing the Community out there, I think that's been a really good thing. And I think the way we developed the partnerships with organizations like Good Things Foundation and Barclays has been a really good thing building on national programs. I think rather than trying to create specific localised programmes, building on what's already out there and then tailoring them to support the local needs rather than just trying to create and duplicating what's already happening, I think that's been really good. And I think really that's sort of the ability to build a trusting environment with some of my partners and getting them to step up when we needed them. And good examples of where we've got, you know, someone taking responsibility for the connectivity group, people attending the skills group. So they got a real vested interest in them and people helping with developing these policy groups as well as sustainability that I think having to put those structures in place and getting people to own some of those areas are all really good elements of good practice (Public sector participant)

The data from this evaluation has validated the BDIS' relational approach towards delivering digital inclusion activity across Birmingham. A relational model that works effectively across different macro-, meso-, and micro-scaler levels, engaging with local VFCSE organisations and citizens, commercial sector organisations and having a central organisation structuring delivery has the potential to be a sustainable model for the future of digital inclusion in Birmingham. This relational model of sustainable digital inclusion draws upon a asset-based community development framework (Nurture Development, 2023), which is a sustainable community-driven approach based on mobilising particular communities to connect the assets available in local areas to the wider policy context of reducing need and vulnerability. The Asset Based Community Development framework premises that communities can drive the development process themselves by identifying and mobilising existing, but often unrecognised assets. Thus responding to challenges and creating local social improvement and economic development.

As already demonstrated in this report, the BDIS has been an effective strategy in bringing people together for sharing knowledge and experiences and delivering activities to the benefit of local residents and communities. In this context, the strategy has been a positive and effective tool in addressing digital exclusion and making sure vulnerable citizens are fully supported and included in the embedding of digital e-government services, as well as provided the skills and capacities needed to maximise their potential for employability and the wider economic recovery of the city. However, there is also evidence that indicates in some circumstances the BDIS is not as effective as it could have been in delivery and operationalisation. Below are analyses and reflections on the different aspects of the relational model of BDIS and how they can be embedded to ensure a more sustainable digital Birmingham.

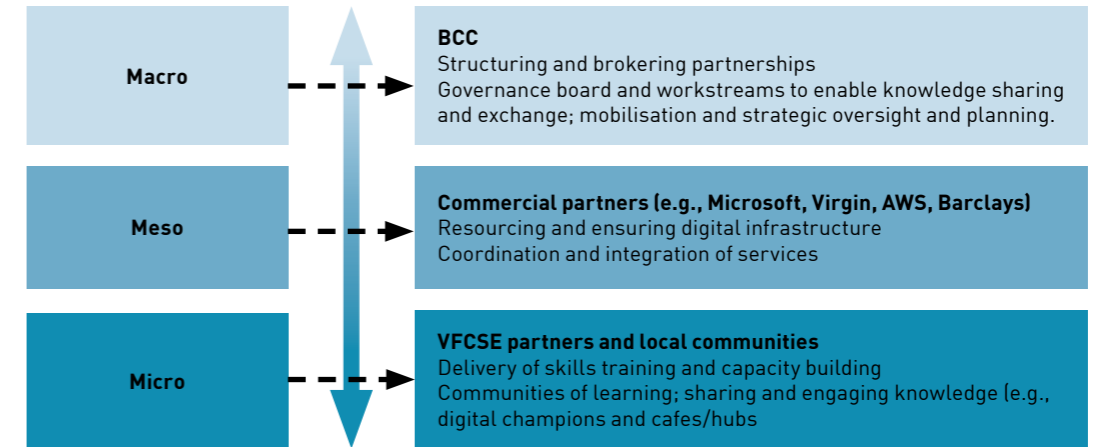


Figure 2 – BDIS relational model for sustainable digital inclusion

3.2 Macro level (structuring and brokering partnerships)

It was largely agreed among participants that the delivery of a future sustainable digital inclusion model should be supported by a centralising organisation that has responsibility for structuring, developing, and management of the strategic oversight of the digital inclusion strategy. While this centralising organisation does not have to be Birmingham City Council, the data strongly evidences that such development and strategic oversight should be handled by BCC:

Umm, I think there has to be a like a central champion. If you like, you know there needs to be somebody who has sort of 24 hours a day focus on the subject of digital inclusion and to be kind of single minded and not try and do it as an additional string to their bow if you like or, you know, uh, an add on. So yeah, I would say having somebody that is central, it doesn't have to be somebody in the Council, but somebody, somewhere that is going to take over from our project and keep pushing, keep the dialogue going and keep encouraging efforts and you know to to build on what we've done (Public sector participant).

I still think there's a place for the City Council to broker relations and a place to hold space for those conversations that happen.... But I think ideally they are best placed to hold that space. Giving credit to different things that different groups can bring to the table. Yeah, ideally it would be [the council]. I didn't get the feeling the Council wanted to carry on playing that role. They've got the biggest, the most leverage (VFCSE sector participant).

Our role was to really provide that facilitation role to bring the different organizations together, to bring those linkages together and then really step away and let them get on with it. I think at the moment there's still a reliance on us to be part of that and I think for a future sustainable model, we do need to still play that facilitation and convening role link of the different organizations. But then our ability to step out and leave them to deliver something sustainable is where we want to get to it. I'm not sure we're there yet (Public sector participant).

At this macro level, the role of BCC is to bring together key commercial and VFCSE partners to structure and broker partnership as to how to best tackle digital exclusion and ensure smooth delivery of digital inclusion activity across the city. The macro space is constructed as vital in encouraging 'buy-in' from wider private and VFCSE stakeholders, as well as acting as knowledge experts and a bridge to connect different organisations together to share knowledge and resources. In this role BCC can raise awareness of digital inclusion issues in Birmingham and mobilise collaboration of key private and VFCSE stakeholders as a means of influencing and embedding digital inclusion practice(s) throughout the city:

So I think if we can try and really, truly have a public private partnership that's maybe hosted by the Council and then has stakeholders from across education, you know, healthcare and thinking about because digital is not going anywhere. So thinking about that base layer connectivity, the digital skills, the aspirational part of it, it all kind of connects in and giving people that are interested, third parties, a place to land that they can then self-serve (Private sector participant)

It's vital that something like the Council, the Council is involved because it gives it that status of being really important, which is, you know, much as you need the other voices having that stamp of it being something that is no, this is the Council says this is really important. So clearly it is because you know that there are other priorities and if this is up there with those, then that gives it that status (Public sector participant).

I think we're here as knowledge experts and service delivery. I think the structures gotta be delivered. You know, if Birmingham [city council] want to drive digital inclusion, then they need to be standing people up to help us coordinate and manage and deliver our services...But I mean, we haven't done that. And why would I if I've got an organization that has put people there and nominated and wants to work with me, and there's a route and channel to provide no services, I will absolutely work with them. If I'm having to find my array around the Birmingham side of things to help, well, I'm gonna go and work with the people that I can have more impact with and we'll have more effect. Birmingham, they've got this big thing and proposition. This is what we delivering and then there's no support behind it. So and if you look at charitable organizations or commercial organizations, unless there's somebody to work with to help drive their facilitate, they're gonna go and play elsewhere. And that's the issue (Private sector participant).

3.2.1 Workstreams

The workstreams were seen as an important component in the coordination of BDIS. Participants maintained that the five workstreams (e.g., Policy alignment, Skills – children, parents and carers of children, Skills – adults, Connectivity and devices, and Funding and sustainability) worked in terms of ensuring delivery of the different areas of the strategy and mobilising knowledge and expertise. However, there were strong sentiments that the workstreams needed to be ran and led by individuals either from within BCC or who had local and regional understanding of digital exclusion needs. This is why certain workstreams (e.g., Connectivity and devices) seemed to perform better than others:

where's Birmingham skin in the game to actually deliver it. Now I know that there is [names of people in the digital inclusion team] and I know [Name] was very focused on devices and I can see that moving, but I think that's because there's Birmingham investment in time and effort to actually progress it. And they're making some good progress. So my view is if the model continues, we've gotta have a Birmingham chair. We've gotta have a Birmingham project manager aligned with each of the workstreams, and we've got to have Birmingham skin in the game in the workstreams to demonstrate we're here and we can help. Because just because I've got, you know, thousands of hours of training. Education. Unless there's a Birmingham person who we can go to get it hosted or managed or delivered, it's not gonna happen (Private sector participant).

I look after Birmingham all the way down to Cornwall. So I kind of inherited the workstream and we are dedicated to support Birmingham to help them because we know there's a lot of diversity, a lot of people, a lot of poverty and a lot of people that need our support. So we're absolutely dedicated to doing what we can, but then I we don't know the areas as well as obviously [Name] knows it because he lives there and he understands it better. He knows he does that. Birmingham is the area. So for me, I didn't know, and that was kind of a little bit of a problem that we had that we were looking for someone to partner with us in the work stream. To work closer with us, to give us a more localised viewpoint so we can work in conjunction and again going back to that working in partnership that proved quite difficult to find someone to work with us to take on that responsibility of the work stream. (Children, parents/carers and young persons' workstream).

3.2.2 Governance board as community of practice

Another crucial aspect at the macro level is the continuation of the governance board. The governance board is understood as a space that has the potential in bringing different public, private and VFCSE organisations together; sharing learning and knowledge and building relationships and partnerships to ensure sustainability of delivery of BDIS. The quotations below denote how this approach to the use of the governance board can foster new, innovative activities to tackling digital exclusion through the sharing of information and best practice:

That is very much about sharing best practice, letting different organizations know what different organizations are doing so they can copy, learn, or replicate if necessary. I think what we haven't done with our Birmingham partnership is really build the mechanisms to share some of the good things that other organizations are doing it. It has been too much about what the city is doing around delivering the digital strategy rather than in embracing of what other activities are happening and using that to augment and deliver new sets of activity to support the citizens of Birmingham (Public sector participant).

I know that there are some other organizations that provide it. So then it's just that building of that relationship and trying to get the individuals to see that these organizations are in place. They have digital coaches and that they can be the next step in their progress of how we're supporting them with certain things. And at this is also another trusted organization. That's not gonna do anything different with them that they're just gonna help them along alongside our help. A lot of our clients are not there yet. Yeah, the hope is to try and get them there (VFCSE sector participant).

Public sector participant maintains that one approach to establish the governance board as a site of learning and sharing of knowledge is to adopt a community of practice model. Under this community of practice model organisations would be given a platform to share and disseminate latest innovations in tackling digital exclusion which other organisations can use, adopt, incorporate, and alter as best practice:

Community of practice type approach would be really good where we can showcase different organizations and give them the opportunity to really sort of make that happen. But again, that needs someone to coordinate that. There is an overhead to that, and who does it and who the audience is and who does all the arrangements. It is something that has been a barrier because one the capacity hasn't been there to do it and to it would have been great if one of the partners said OK, we'll organize this as part of our commitment and again, one of my frustrations, to be honest with you is the level the partners are stepped into in terms of taking that accountability and responsibility. Yes, they've been there to help and support things that are happening, but I think it would have been greater achievement for us if an organization stepped up. I will leave this. I will leave that and do that kind of capability and we've had some good success in that.

3.3 Meso level (resourcing and infrastructure)

The meso level of BDIS relational model for sustainable digital inclusion represents the way in which commercial partners can be integrated into, and play a pivotal role in, the delivery of digital inclusion activity. The role of commercial stakeholders is to act in the capacity of resourcing and providing the necessary infrastructure needed for citizens to be digitally included, providing opportunities, and building capacities by allowing access to e-learning platforms and software, as well as for public and VFCSE organisations so they have the necessary tools needed to deliver individualised support to local citizens and communities based on need. The meso level needs to be active to varying degrees at both the macro and micro level, and framed around commercial partners' corporate social responsibility and social value offering:

Devices are always obviously the solution and I think getting people like Microsoft and Google and you know, Lenovo, to understand that yes, we know that they run for profit and stuff, but think about their corporate social responsibility of giving back to those who are digitally excluded and making it accessible for them (VFCSE sector participant).

The private sector can bring in the packages of support they've got into our space of supporting citizens and supporting Community organizations (VFCSE sector participant)

How do we pull it together in a toolkit so that it's easy and we've reducing friction for the public sector to kind of draw on there? So whether or not it's people that are working in a hospital, they're already employed there and they want to upskill themselves or someone just left school. And they're looking for a route to get on to a degree apprenticeship or different apprenticeship (Private sector participant)

3.3.1 Coordination, integration, and operationalisation of services

Interview data from private sector participants highlights the benefits of partnership working between BCC (as broker of relationships and networks between public, private and VFCSE partners at the macro level) and commercial organisations (e.g., Microsoft, AWS, Barclays, Virgin and so on). Private sector participant 1 in particular highlights the cost saving measures private organisations can provide as well as the environmental sustainability of providing IT infrastructure for BCC to deliver the digital inclusion strategy:

So for Birmingham I would look at what are they going to do in order to save money for the Council. So whether or not it's going to be, I would guess that with the Oracle issue they've got coming up, there will be some looking at some technology partnerships. So where they're looking at new procurements with new suppliers is to get a commitment from each supplier to make some sort of a digital pledge...And so, for example, if you use the cloud, there's a huge sustainability game that you'll get. So it's at least kind of 85% carbon reduction in using it on premise. IT infrastructure based on hosting yourself and moving into the cloud. And so we know there's a sustainability saving that we can pass to a customer and there's some things we can do on top of that to help the Council evidence that. But they're also gonna be some digital skills programs that we could offer and there may be some other things that we could do. I think that building those relationships at business levels rather than just allowing it to execute the contract could mean that they can actually drive better deeper relationships and maybe get more value out of it for the residents (Private sector participant)

The main issue commercial sector partners had with the delivery of BDIS was the lack of clarity around organisational coordination, integration, and operationalisation of digital inclusion services. Private sector participant maintained that to have a future sustainable digital inclusion model the responsibility of coordination of delivery needs to be at the level of BCC. Without local 'buy-in' and investment from BCC as coordinator of delivery, there is a concern that BDIS would not be sustainable in the long term:

We all have different training and education as Barclays Eagles. Where does the citizen go to get access to that? It needs to be hosted by Birmingham. It's my view that it needs to be managed by Birmingham and available for citizens through Birmingham so people can get access to. There's nothing of that....but that then comes back and reflects that without a Birmingham investment with a project manager or programme manager to drive it, it's all falling apart a little bit and without having a Birmingham chair to demonstrate we are absolutely key and aligned and keeping the sessions going, nobody will sign it. I feel a lack of alignment responsibility because to Birmingham I'm aligned to an independent third party chair

As coordinator, private sector participants mentioned that BCC should be responsible for priority setting and then mobilising the expertise of commercial stakeholders as to how best to embed resources and build infrastructure. Recognition needs to be made that the commercial sector does not operate in the same way as the public or VFCSE sector. BCC needs to drive operationalisation of a future sustainable BDIS, identifying goals that commercial sector partners can get involved with and deliver against:

They could bring into this landscape of education and training in Birmingham but they need to put in some sort of structure to make it available to do. Now I can't put in the structure because I don't know what Birmingham want. I can't put in structure with other organizations because there's no guidance or direction where I could work with other organizations to see where the duplication is and change and deliver. This is where we offer that, but there needs to be a level of coordination and control. Now if Birmingham don't want to do that, that's fine. But if Birmingham want it to happen, they need to do that. So it's all very well somebody from Birmingham saying, right, it's up to you lot now you all said you wanna get involved in work. It's not gonna happen. Birmingham have gotta have some skin in the game and driving it and if they don't, it'll fall apart because we're yeah, we're all in there and we all want to contribute social value (Private sector participant).

If [citizens] went to the Birmingham digital page and then there was the best of all the different education capabilities we've got available for them to adopt and use. You need to have that landing page that Birmingham citizens can get to. So there's there's two areas we gotta have that and that's dealing with the commercial sector. I'm certain you know, in a charitable world, people will be often working anyway, but if you want the commercial guys involved, you've gotta have a delivery team that we can work with to deliver against (Private sector participant).

3.3.2 Online safety

Online safety is another important aspect where resourcing by, and infrastructural support of, commercial partners could benefit the future sustainability of BDIS. With the introduction of the Online Safety Act (2023), there needs to focus on ensuring the most vulnerable groups of citizens are safeguarded. This is because the diversity of vulnerability (see section 1.1) as well as the relationship between digital and wider social inequalities (see section 1.2) means that those who often lack general literacy skills also have limited digital literacy skills. Therefore, a future priority moving forwards could be getting stakeholders, mostly VFCSE organisations who are responsible for the delivery of digital skills workshops and other modes of support, to embed inclusive practices (e.g., the use of easy read) to ensure vulnerable citizens are digitally included in ways which build both general and digital literacy:

I did speak to [public sector employee] about this, about the online safety bill that's coming in and that is a big worry and for the fact that we there are many apps that we could recommend to customers that you know the speech to text apps and things that you could do your job search verbally. But there's in house, there's in app purchases that would prevent you from recommending those to any service user. We've never identified the free ones and the problem is once you go down that route of in app purchases, these are they gonna get signed up to something that's gonna then share their data. And then they're vulnerable to being hacked, or I don't know, you just don't know which are safe methods. That is a big ask, and the other thing is around English literacy as the fact that the average is sort of below age 9 in the UK compared to 13 in the US and a lot of the communications I've done a big piece around that about. How do you simplify communications? And I've myself started using the Hemingway app because I was sending my browser because I was sending multiple emails out across

17 sites and getting very little traction. People not replying to me and I thought, oh my, am I just speaking a foreign language and people aren't understanding what I'm saying. And then when I spoke to our course accessibility team, they recommended that we write easy reads, that we run things through Hemingway and then look at how we've written something that's too complicated....It tells us to simplify our sentences down, simplify what we were doing and highlight where we could word things better. I feel like that needs to be incorporated in when you're helping to upskill anybody, is thinking about easy read communications (Skills – adult workstream)

This is where commercial partners could play a crucial role in the future sustainability of BDIS. They can help resource toolkits and programmes to ensure citizens are protected online and which address a diverse range of need:

we need to be working towards is additional safety as a component of the strategy moving forwards and what that looks like to a whole peripheral of diverse citizens and residents with a whole range of different vulnerabilities attached potentially (Public sector participant)

3.4 Micro level (building skills and capacity in local communities)

It is on the micro level where VFCSE organisations build digital skills and capacity within local communities. Local VFCSE organisations are the vehicle for ensuring the vulnerable citizens are supported and given opportunities; having responsibility for pedagogical delivery of digital training sessions based on understanding of need and working with primary partners across the macro and meso levels to influence change in strategy implementation where necessary as well as making sure the appropriate resources and infrastructure is in place:

Really. I do feel like it's important to have, you know, the people there at ground level, really, genuinely doing the work and kind of getting to know the communities that are being worked in. So you can know how to help and support them better...I definitely feel that sort of thing working with community groups. I don't know. It's kind of difficult to always find these kind of places within communities. But if you look close enough, I do think you find that there are a few there. So whether it's church communities or like I said, community groups, then use them to hold youth sessions and things like that and kind of, yeah, reaching them in the place where they're comfortable (Children, parents/carers and young persons' workstream)

Digital inclusion activities need to be based on a model of coproduction (Van Eijk and Steen, 2016). Coproduction would enable local citizens and communities to have a stake in the types of digital inclusion activities delivered as well as what needs to be done to improve services delivered at the local level. This model of coproduction would embed BDIS through inter-organisational partnership, bringing together public, private and VFCSE professionals with local citizens in the delivery of digital inclusion provision; thus, democratising the ways that digital exclusion is addressed (e.g., citizens having an active role in digital inclusion) and ensuring the future sustainability of BDIS:

we need to be listening to our communities, to identify what we have got right and actually really what we need to be doing in putting in a model of coproduction. So one of the things that we did was engage Birmingham with the voluntary sector to do a piece of coproduction work, engaging seldom heard communities to tell us what we need to do in terms of digital coproduction (Public sector participant).

the beauty of having that sort of democratised and devolved model is that communities are solving the problems for themselves and you're enabling the community to solve those problems with themselves instead of having a top-down approach; this is how we're going to solve digital inclusion. And I think that's perhaps where the BCC model slightly didn't work because it was very much in house and we're delivering this, whereas actually it should be more about the community. I think they did do some of that and that's where they were successful. It's enabling and fostering that network and basically, you're the host organization for that network. You provide the administrative support that helps that network to survive, but the actual provider element of that network is these local community organisations, voluntary community sector, private sector where they can help and they're delivering it on a largely locality based the approach (Public sector participant).

3.4.1 Digital places/cafes

One initiative that came out of the interview data with participants is the mobilisation of community hubs or spaces to act as centres in which citizens can use, learn digital skills, socialise, and receive wider support in a convivial setting. These community hubs, which can be called digital cafés or places, can increase digital and social inclusion (see Ferlander and Timms, 2006). These digital places/cafes are based in local communities, voluntarily ran with infrastructural support from BCC and commercial sector stakeholder support and should host refurbished and/or new devices (e.g., laptops, MiFi boxes, sim cards and so on), provide digital skills training sessions, capacity building as well as opportunities for socialising, creating human connection fostering community making through the provision of support. Public and VFCSE organisations could signpost citizens to these digital cafés/places:

we try and make sure that we have a good range of in person and virtual providers, and that includes partnering with. So we have a lots of community centres nearby and including some schools and they will run digital classes so often we will signpost the family. To a virtual service, but also therefore the digital literacy classes so that they know how to access the service because (Public sector participant)

I think it's important when working with individuals with mental health needs, especially if they've got anxiety and depression, we signpost them to the hubs, the digital hubs, and I think it's really important that yes, they are there. I know the whole purpose of this project was about giving out devices and continuing to give out devices and make data available to encourage people to think differently about digital, but there should be an emphasis on providing help through existing hubs. As part of our work, we can tell them that they're there. We can sign post them (VFCSE sector participant).

As highlighted earlier in the report, Warm Welcome Spaces (see section 2.3) have been successful in providing support for local citizens. The success of Warm Welcome Spaces has been because they have not been solely places where citizens go to receive support around digital inclusion, but a place that fosters community and conviviality (Neal, et al., 2019) between citizens too. The Warm Welcome Spaces concept could be consolidated under the rebranding of digital cafés/places, keeping what has worked well and building upon such successes via the BDIS relational model for sustainable digital inclusion.

3.4.2 Digital champions

Another initiative was the mobilisation of digital champions to support digital inclusion activities across different communities in Birmingham. Digital champions are community leaders who are prominent in the development of capacity among citizens who have experienced, or are experiencing digital poverty, coordinating and inspiring other citizens through knowledge production (Khan and Khan, 2019; Pittaway and Montazemi, 2020; Wilson and Mergel, 2022). The function of digital champions is to bolster local capacity in citizens who are digitally included and have the necessary knowledge to scaffold support to others who may not be digitally included and have the same capacity (Bracken & Greenway, 2018; Mergel, 2019), building networks and communities of learning and sharing of knowledge (see section 3.4.4). The wider literature demonstrates this as best practice as it has the potential to promote, embed and disseminate skills and capacity using local citizens and community assets (Helling et al., 2005):

It's about relationships. It's about who they know locally. It's about encouraging people that this is good for them. So I think that will be tangible, a tangible difference and that's you know, that's a really useful bit of connectivity (VFCSE sector participant).

Findings from the interview and survey data suggest that the use and training up of digital champions was underutilised across VFCSE organisations. Despite this, there is a keen interest in embedding digital champions within local VFCSE organisations and public places such as local libraries. The main concern was in demonstrating the benefits of becoming a digital champion and structuring citizens to build confidence to volunteer. This would strengthen support given within and across local communities and make for future sustainable delivery at the micro level:

I would love one of our young people because again obviously we've got quite a lot of digital tech businesses and within cohort and our alumni. I definitely would like to see a digital champion in our organisation, but at the moment we are pretty small. Obviously, it is only me on a day to day basis, so obviously, yeah. So I suppose it would be me to start with. I would love to see one of our young people being digital champion. And you know, because again that goes a bit wider than [named organisation], then that goes, you know, to a whole, you know, use youth, peer level (VFCSE sector participant)

You've got many libraries in Birmingham, you have tonnes of libraries, there is always staff there, but the majority of them staff are not willing to help because I think it's a nervous thing. I don't think it's that they don't want to help it is they're not too sure, but they don't need to be experts. They just need to know every bit of tech. They just need to have that willingness to help and have a bit of confidence. And then you've got hundreds of people already within the community able to support people. We call them tech volunteers (Children, parents/carers & young persons' workstream).

3.4.3 Expertise, not experts

In regard to how to mobilise digital champions, interview and focus group data maintained that the embedding of digital champions needs to be done via engagement with citizens, networks and expertise at the community level. Reference to preexisting digital capitals and capacities (Ragnedda, 2018) in community contexts was mentioned, highlighting 'a system of dialogue and exchange associated with networked governance' (Stoker, 2006: 56) would be embed delivery of digital inclusion activities at the micro level and ensure citizens' capacities and knowledges are mobilised to support individuals and groups facing digital poverty:

You could find people that are already kind of leaning in that we've all got people that set up random Alexas in their home or they're really into using ChatGPT. They're the people we wanna find that are gonna lean into this sort of stuff, and it's gonna be able to go in and talk to citizens about how do you set up devices and show how to use you know, software. We've got loads of people here that are happy to go and volunteer into their local area. They bite your hand off to do that, and I think that'll be a faster way to do it. And that way I think we could get an evidence base that's at scale, statistically significant and then we'd have the data points to kind of invest in something that's a bit more meaty and that's how our business works anyway. (Private sector participant)

These digitally competent citizens play an important role in delivering support for digitally marginalised groups. Participants denoted how training up citizens with digital capitals and capacities can help to support hard-to-reach groups and foster trust among communities where the delivery of digital inclusion activities by public sector organisations may be met with apprehension:

We need to upskill some digital champions in communities, particularly communities that we seldom hear from. So if we can it develop a network of trusted voices in those communities and that's why I think this stuff with [named person] and the neighborhood network stuff, particularly the stuff that they've been doing, I think that's really interesting and how can we leverage locality and community based organizations to help with achieving penetration in communities where the Council or the NHS may not be a trusted voice (Public sector participant).

Engaging with people in those communities and offering support to them to become these digital champions. It's not gonna solve the problem, but it starts the engagement and it starts the conversation, doesn't it? (Public sector participant).

An interesting distinction was made between 'digital experts' and having 'digital expertise' in the focus group with the children, parents/carers and young persons' workstream. In training up digital champions in the community it was articulated that it is not so much about training 'experts'; that is to say, instructing professionals with a high level of technological knowledge to support digitally excluded citizen, but rather mobilising citizens with knowledge of how to set up devices and enough technical 'know how' to google solutions to fix issues and answer questions – put another way, local expertise – as a way of engaging and sharing knowledge:

I don't think being an expert is really part of it at all, because we've got some very well qualified digital volunteers that you'd could call digital champions. We call them tech support, but they would not know everything. They will still use Google to find out certain questions that there's just so much. It's changing all the time. You can't possibly be an expert on everything. It's about having that patience and that time to support somebody. Doesn't matter how expert they are. I can Google stuff and I can help somebody out. Most people are already doing that. Most people are already. You're probably helping your grandma out or helping a parent out to use their device (Children, parents/carers and young persons' workstream)

3.4.4 Communities of learning; engaging and sharing knowledge and digital assets

Engaging and sharing local digital knowledge and assets was a core tenet of the Birmingham Digital Inclusion Strategy. It was acknowledged to provide appropriate and ongoing support around accessing, as well as how to use and engage with, digital technologies via knowledge and asset sharing opportunities it is crucial to equip citizens with the necessary digital capitals and capacities. Hence, one key initiative to ensuring sustainable digital inclusion is by embedding a culture of continual knowledge production and sharing of learnings between citizens and different public and VFCSE organisations:

One of the things that we found was we can go to the students and talk about the cloud and give all this great upskilling. But then what you had is the gap with the teachers or the lecturers because they didn't have this education. And then we had to then do an upskilling session for the teachers and I feel that it's gonna be the same so if we could always start with the enablement of the public sector and workers and make sure that they've got access to these materials. Then we create a sustainable kind of trainer model. So who are the kind of digital champions that we seed and that are then empowered to go out and go into a community group and train people in the community Group (Private sector participant)

NNS is neighbourhood network scheme and there are 10 NNS teams around Birmingham, one per constituency, who they support, what they call assets, you know, community groups in their constituency. So again, that's something that, you know through digital we could use more of and also by talking to the teams occasionally directly, we're encouraging them to spread the word and get community assets to sign up to the online centres network and to include digital inclusion as part of their services (Public sector participant).

One local initiative that is committed to addressing digital inclusion is Digital NNS (Digital NSS, 2023a). Digital NNS was a Northfield Community Partnership (NCP) project funded by BCC Adult & Social Care Prevention & Communities Team, whose aim was to identify the digital maturity of each of the city's 10 NNSs (one per constituency) and work with them and the NNS Connected Communities groups to maximise opportunities for digital inclusion for the benefit of local assets and citizens. The Connected Communities groups are communities and groups in Birmingham which are not geographically based, but rather who are currently experiencing or most at risk of experiencing digital poverty. The NSS Connected Communities groups are currently represented by the LGBTQ+ community, the deaf community and the GRT (Gypsy, Roma, Traveller) community. The project builds on NCP's successful establishment and management of a digital literacy project in two of Birmingham's constituencies (Northfield and Edgbaston) in partnership with Gateway Family Services and Age UK Birmingham, as well as the creation of Community Digital Skills Networks (see Digital Poverty Alliance, 2023a; Digital NNS, 2023b). These local projects coincide with other useful, more national resources such as Charity Digital's (2023) Digital Inclusion Hub, the Digital Poverty Alliance (2023b) Directory for Research and Insights, the National Digital Inclusion Network by the Good Things Foundation (2023b)

I'll say other IT training and there's got to be done in local kind of hubs and things that that do it. But for this to be more training available for people so that you know cause giving some deal laptop is great, but people also need to be able to know how to use them and best will in the world. Most voluntary services, they're not there to give somebody, you know several hours worth of training on how to use a laptop and how to surf the Internet and how to send an email and how to create a CV. It is most services aren't equipped with spare staff to do that. So whilst getting the tech is useful, there's also like a whole heap of work that goes into them being able to give somebody something that is useful to them. So if something like that could be provided, you know that would be helpful (VFCSE sector participant).

The embedding communities of sharing and engaging knowledge and assets is maintained to have impact on reducing the anxieties around learning and accessing digital for marginalised groups, as well as having the potential to bolster the employability of these groups, driving economic growth via digital inclusion and upskilling. However, the data presented below highlights that the creation of communities of sharing and engaging of knowledge and assets can only be fully implemented through resourcing:

There's a whole layer of anxiety for people who've not used digital before. We have to make sure that people had seen that and they understood that and they knew there was a way around it because that's how they were going to help people to do it. If you're gonna be working with people most at the margins when it comes to digital exclusion or digital inclusion, whichever way you tell it and you've gotta think about how it is that you resource those people for whom digital is not their primary focus. So I'll you know, volunteers, people in community organisations, to be able to support people, to do that stuff (VFCSE sector participant).

we've sat with individuals with our own PC's and go through things with them. I mean, and I say PC and I mean laptop and you know, so accessing Wi-Fi on our phones in order to be able to do it because we don't want to use the public Wi-Fi. So all of that comes into play. So we are finding it increasingly more where our own organization needs to be able to access Wi-Fi Internet reliably and securely and be able to, if we've got a laptop or a device out with us, to be able to have a device that will do a translation service will enable us to pick a different language so that we're picking the person's language, providing the audio in that so that they can complete it, cause that makes them feel more comfortable. So yeah, I think that those things with technology will be a real help for us as an organization and for the individuals that we're looking to work with (VFCSE sector participant).

We work with all our participants to a point where they can potentially be employed in the areas that they're actually kind of studying in. So in terms of our boot camps, we're upskilling people with a lot of different digital skills and how to use different platforms. And by the end of it, actually. What we hope to do is actually get them into employment, so that is kind of the end goal for that. And that's kind of the main priority there. And then even with our work in schools, we're kind of prioritising. Students that actually engage and actually choose creative subjects at GCSE level, so those are the kind of things that we kind of prioritise in our work (Children, parents/ carers and young persons' workstream)

3.4.5 Informal, welcoming, and individualised approach

In the case of delivery, interview data maintained that digital inclusion activities should be based on an informal, welcoming, and individualised approach. Participants described how an individualised model to digital inclusion can target need, afford culturally competent provision, and build a bottom-up approach to delivery that has citizens' voice located at its centre:

Like access to the data, the connectivity, whatever you call that access to devices and unsuitable devices. We have to be very careful about how descriptive we are about what is the right way to connect someone digitally. Years ago we used to try to offer lots of these BBC kind of training programs and you could go. We had devices in centres and people would get onto computers and use a keyboard and the screen and you get introduced to all of that. That's actually really complicated for an older person to maintain on their own, and you know, kind of software updates and you know, when Windows Explorer updates come and you've got to change the way the whole operating system with it is where it gets really complicated. So getting the right kind of devices and then for me it goes back to how is it you start to get people's hands to have a go and a play and what you can't do is kind of expect people to understand what this, what benefit this can bring to their lives and so you have to start to inspire them to see what the possibilities might be (VFCSE sector participant)

Structure our health informatics platforms to have a downstream impact on our citizens. So you can imagine a situation if you are already structurally excluded. Particularly if you're from a seldom heard community. And then we might implement our systems based on a model of care that isn't actually designed to support you and your needs. And it isn't culturally sensitive to the needs of that group, and then that will down the line compound the health inequalities of that group are experiencing. Inevitably, we will design our systems to support and reinforce the health system as its design, because that's the workflow. I think we need to have a different lens when we're implementing these technologies to say what we just need to reflect on some of these other things. And you know, we have the statutory requirement to have to complete things like equality impact assessments, which help us to think about those (Public sector participant).

How do we make the service, the digital inclusion strategy as sustainable for the long term. So it can't just be we've got spurts of funding here and there, let's do this 12 week programme or we'll run out the kind of digital lending libraries for a year and see how far that goes. It takes a year to get to get the message out that you have all of these devices, these are the people you can talk to or organisations and then it would probably take another year to get kind of actually what is the impact on that, what change are we effecting... I think that support, it needs to be more about supporting the work that's working. I don't think the council can parachute into areas where there's already, you know, established groups and established services. And so I think things like, you know, distribution of devices, those things are really helpful. But let's start by asking people and these organisations and citizens, what do they need? What are going to make their lives easier? And then, you know, having that bottom-up approach of, OK, this is what this is, what we've been told is going to be helpful to people. Name the shock on some of our group's faces when they were like, we've got all these devices now, but you turn them on, there's nothing on there. You

know, there's no word, there's no, you know, they're almost useless to us. They were then having to sort of scramble around. And I think that that comes from not having conversations with people about exactly what these devices is going to be used for and what needs to be on them, you know, all of that kind of thing. So, yeah, just having real conversations on a real local level, you know, almost a ward basis of what the individual needs are. You can't just be offering across the whole of the city because citizens aren't always going to fit into those boxes. It's not going to suit everybody. You know some people would love to have, you know drop in cafe type courses, some people like quite formal training and some people need it to be 1 to one in their living room. There needs to be options that needs to be options. But also the main thing that I would say is we need continuity. We need something that's going to last for longer than a couple of years. You know we need something that's going to really embed itself. So it's about embedding the digital inclusion agenda into actually local government policy. So whatever that may be, but also again not not universalising sort of need or the need of people, but actually offering a more sort of like, OK, this is the policy. But then we can offer maybe type targeted support for particular wards across the city as opposed to something which is like ohh, this is a kind of casual net which will roll out to all areas of the city (Public sector participant).

3.5 Mapping geographies of digital need

The ever-present nature of digital has produced uneven geographies of need caused by lack of underlying infrastructure, access to material technologies, the necessary capitals, and capacities, as well as spaces where skills and knowledge can be shared and learned (Ash et al., 2016). These geographies of digital need are something that participants discussed in the interviews and focus groups. The main theme was that Birmingham does not currently have the right level of data to capture where the geographies of digital need are within the city. Public sector participant 6, in particular, maintains having access to data would allow for identifying where need is at a ward or constituency level and then design a dashboard to capture the wider impact of digital inclusion activities and direct localised resources and support where needed:

Absolutely. I mean the the big issue has been about getting access to the right data. We can't even say what the level of digital inclusion is at the ward level or as a constituency level? We just don't have that level of knowledge or data. So if we could get better understandings of where the need is, the type of need that's required, and bring that together into some kind of dashboard at a localized level, that would immensely help us moving forward, but also the ability to capture what impacts we have delivered. So in the people who have had support, what has there been their trajectory moving forward? Had they gone into employment, have they gone into training? Have they gained greater confidence that they improve, improve their social capabilities, all those type of things would be beneficial activity, a good outcome for our citizens to be able to capture that information and report back on it, which would then act as a beacon for us to then showcase the impact of what digital inclusion really means for people (Public sector participant).

For geographies of digital need to be captured, there needs to be access to data which can be mapped. Discussions in the interviews and focus groups highlighted that there is a body of data available – both quantitative and qualitative – that can be used and drawn upon to begin developing a dashboard that captures the geographies of digital need within and across Birmingham at a ward or constituency level. Extracts below denote the possibilities of catching such geographies of digital need by collating data available across health and education, as well as that caught by VFCSE organisations in local communities. This would reduce digital marginalisation through targeting and directing resources and support based on the need(s) of the group or area as to increase their overall levels of digital inclusion:

So if you think about things like health, technology and health related digital platforms, then there's sort of internal systems that we use to record information about our patients and manage our patients and manage flows within our systems and report data upstream for monitoring purposes, but also for public health reasons. And there's an issue there because if we don't structure that data properly. And actually, those systems are biased in the way they are structured. That can have an untoward an unseen impact on the health experience of people accessing our services and also on the data that we then report which has an impact on the way services are commissioned and the way services and the way we manage services in terms of managing things like health inequalities and population health (Public sector participant).

We have a lot of is educational data. Data takes us into a data-based understanding of the populations that sit in areas. And so we start with, you know, a fairly rich statistical snapshot of the city. Mostly we should be able to then be fairly clear as to where we are impacting successfully so we know where poverty is. We know that we're going to put in a small supplementary resource across the patch and we will then be able to track where that resource gets deployed (Children, parents/carers and young persons' workstream)

We do a lot of data through our kind of social media sort of stuff. So we do have a lot of kind of recording of what we've been doing in terms of kind of keeping in touch and all of the work that's actually being produced by the people that we work with. So we definitely do it in that sense. And then we also do report writing. So at the end of anything that we've kind of been working on, we'll always kind of produce a report which we can use to kind of evaluate what's happened and then also just kind of actual, genuine qualitative data that we actually get from the people that we work in with in terms of their feedback and doing it through surveys. So we also have an idea of how they've actually found their experience and their learning (Children, parents/carers and young persons' workstream).



FINAL REFLECTIONS AND RECOMMENDATIONS

Digital exclusion is an imperative problem for Birmingham and the wider UK that has long been neglected, but which has become a focal point since the Covid-19 pandemic. Digitalisation underpins many of the economic, political, and social systems of the city; from how public services are accessed and used to how individuals engage with work life and communicate and maintain contact with distant friends and family.

This evaluation research study sought to examine aims 1-4 (see section on research aims of the evaluation). While research aim 2 (examining the role structural inequalities have on experiences of digital exclusion) was captured in the evaluation, research 2, 3 and 4 were only partially assessed. This was because the data collected was largely based around the distribution of devices as part of the CSP and BDB. Understandably considering the distribution of devices seemed to dominate the second year of delivery of BDIS. Using a 'grounded theory' approach, therefore, the report reflects the views and experiences of participant, most of whom were recipients of devices or involved in their distribution.

The Birmingham Digital Inclusion Strategy was geared towards reducing the impacts of digital exclusion. BDIS brought together different public, private and VFCSE stakeholders to better understand and support those experiencing or at risk of digital exclusion such as people with disabilities, people experiencing socioeconomic deprivation and older people who were adult prior to the introduction of the internet (see Bishop, 2023 for detailed summary of the scope of activities undertaken and successes of BDIS).

As result of the delivery of BDIS, Birmingham currently has: -

- 113 Digital Inclusion Hubs registered with the Good Things Foundation (9.8 per 100k citizens).
- 41 Databanks.
- 36 libraries offering free access to public Wi-Fi and devices, with staff committed to undergoing Barclays digital champions training over the next year.
- 12 youth centres, 11 of which offer free public Wi-Fi, access to devices, and digital skills support for the 7,000 young people they support annually.
- 9 adult day centres offering free public Wi-Fi, access to devices and 200 digital skills sessions monthly for the 700 people they support annually.
- 8 PURE digital inclusion hubs with device+ accessible hardware and software loaning libraries.
- 7 NNS device loaning schemes

The establishment of the Birmingham Device Bank has meant 2,900 refurbished devices have been distributed to more than 200 organisations across the city, ensuring better access to devices for around 14,500 citizens annually. In addition to the BDB, the Connected Services Programme has seen 3,698 new devices and 1,490 MiFi units distributed to over local 100 projects, providing better access to devices and connectivity for around 18,500 citizens annually.

Furthermore, BDIS has enabled partnership with the DVLA and Titan Partnership to work towards ensuring that no schoolchild is without access to a loan device via their school to facilitate learning for around 220k children attending roughly 500 schools in Birmingham annually. There has also been a boosted engagement with the high priority Cyber First pipeline, with 70% of eligible secondary schools now enrolled to deliver the Cyber Explorers programme to KS3.

Overall, these successes of the delivery BDIS demonstrate the value of addressing digital exclusion holistically as a 'whole systems' issue utilising a multiagency and community development approach. BDIS evidenced best practice in the way it sought to tackle digital exclusion as a multiagency partnership of different public, private and VFCSE stakeholders, which aimed to create a relational model of digital inclusion, operating at the micro level in communities and the macro level of BCC, with infrastructural support coming from private sector organisations at the meso level. This multiagency partnership enabled the delivery of digital inclusion activities for marginalised individuals and groups by mobilising digital assets into local community organisations as to maximise the number of digital skills sessions provided to citizens and build capacity and digital capital by facilitate citizen-to-citizen or local community organisation-to-citizen support.

BDIS enabled joined up communication between BCC, commercial organisations and communities and citizens, resulting in a strategy that tackled Birmingham's issues around digital exclusion both on the ground in communities and at an institutional level, whereby BCC were responsible for bringing partners together and brokering relationships and partner stakeholders provided infrastructural investment to enhance delivery of digital skills support sessions in communities and enable the strategic oversight and governance at the level of the council. BDIS therefore was most successful in demonstrating how implementation of a multiagency partnership approach can benefit digitally excluded citizens.

The key areas for improvement identified by participants in this evaluation include:

- strengthening expertise within the multiagency partnership
- increasing the amount of data available to citizens to facilitate better online connectivity.
- Ensure citizens voices and lived experiences are being heard.

There is a small marginal gain BCC can do to bolster delivery of BDIS in the short term. This is to distribute higher data packages to citizens. This would allow them to have better access to the internet and to participate in training or informal skills support sessions which may involve downloading sizeable video and audio content that uses up the data they currently have access to quickly, especially as these citizens do not tend to have private Wi-Fi connectivity. The other solutions require more medium-to-long term planning and coordination. These are i) utilisation of a target driven,

commercial model within workstreams. This would allow mobilisation of knowledge across public, private and VFCSE partners within each of the workstreams and provide them with measurable but achievable targets to deliver to ensure the strategy is sustainable in the longer term, and ii) embed a coproductive approach to the governance model of BDIS moving forwards. This could include inviting citizens from a range of different groups to sit on the Governance Board to make sure voices and lived experience is being implemented into delivery of the strategy.

BDIS demonstrated clear value in building strong relationships between public, private and VFCSE stakeholders and local communities, as well as enabling maximisation of digital support through asset mobilisation and sharing and engaging knowledge. Mobilising preexisting warm welcome spaces for marginalised citizens by bolstering their digital offer was also a successful aspect of BDIS, affording affective and humanising places of sociality and conviviality which were about fostering community relations and modes of being together which were not just about digital inclusion provision, which could have the capacity to reproduce stigmatisation and further exclusion. There is massive value in maintaining and bolstering such community empowerment networks as a way of tackling digital inequalities; however, this needs to be done as part of a wider strategic vision between BCC, and public, commercial and VFCSE partners to ensure the correct infrastructure and resources are in place. To sustain the crucial work provided through BDIS, there needs to be a bolstering of the multiagency partnership approach (via the adoption of what has been coined, a relational model for sustainable digital inclusion, see Figure 2). This governance model is about the social, economic, and digital investment of different organisations across the macro, meso and micro levels to allow for greater knowledge and asset transfer between stakeholders and citizens and ensuring not only the digital inclusion needs of local citizens and communities are being met, but the model becomes evidence of best practice which can be replicated to other localities.



References

- Alam, K., and Imran, S. (2015). 'The digital divide and social inclusion among refugee migrants: A case in regional Australia'. In: *Information Technology & People*, 28(2), 344–65.
- Anrijs, S., Mariën, I., De Marez, L., and Ponnet, K. (2023). 'Excluded from essential internet services: Examining associations between digital exclusion, socio-economic resources and internet resources'. In: *Technology in Society*, 73, 102211.
- Anrijs, S., Ponnet, K., and de Marez, L. (2020). 'Development and psychometric properties of the Digital Difficulties Scale (DDS): an instrument to measure who is disadvantaged to fulfill basic needs by experiencing difficulties in using a smartphone or computer'. In: *Plos One*, 15(5): e0233891.
- Arora, P. (2019). *The Next Billion Users: Digital lives beyond the West*. Cambridge, Mass: Harvard University Press.
- Ash, J., Kitchin, R., and Leszczynski, A. (2018). 'Digital turn, digital geographies?'. In: *Progress in Human Geography*, 42(1), 25-43.
- Bauman, Z. (2001) *The Individualised Society*. London: Polity.
- Bauman, Z. (2000). *Liquid Modernity*. London: Polity.
- Barrantes, R. (2010). 'Digital poverty: An analytical framework'. In 17th biennial conference of the International Telecommunications Society.
- BBC. (2021). Make a difference: Give a laptop. BBC local radio. [online] available from: <https://www.bbc.co.uk/programmes/articles/5SqHJMTKZx5sYhltXJvB1Q/give-a-laptop>.
- BCC. (2021). *Enabling a Digital Birmingham: A Digital Inclusion Strategy and Action Plan for the citizens of Birmingham*. Birmingham: Birmingham City Council.
- Beck, U. (1991). *Risk Society: towards a new modernity*. London: Sage.
- Benini, A. (2018). 'Subjective measures in humanitarian analysis'. Geneva: Assessment Capacities Project—ACAPS, 108.
- Bionic (2023). The digital inclusion divide across the UK. [online] available from: <https://bionic.co.uk/business-connectivity/guides/digital-inclusion-in-the-uk/>
- Bishop, P. (2023). Cabinet Report: Digital Inclusion - Year One. [online] available from: Document.ashx (cmis.uk.com).
- Borg, K., and Smith, L. (2018). 'Digital inclusion and online behaviour: Five typologies of Australian internet users'. In: *Behaviour & Information Technology*, 37(4), 367–380
- Bourdieu, P. (1977). *Outline of a Theory of Practice*. Cambridge: Cambridge University Press.
- Bunyan, S., and Collins, A. (2013). 'Digital exclusion despite digital accessibility: empirical evidence from an English city'. In: *Tijdschrift voor economische en sociale geografie*, 104(5), 588–603.
- Bracken, M., and Greenway, A. (2018). *How to achieve and sustain government digital transformation*. Policy Commons: Belgium.
- Braun, V., and Clarke, V. (2006). 'Using thematic analysis in psychology'. In: *Qualitative research in psychology*, 3(2), 77-101.
- Brinkmann, S. (2014). 'Unstructured and semi-structured interviewing'. In: Leavey, P. (ed). *The Oxford handbook of qualitative research*. Oxford: Oxford University Press, 277-299.
- British Sociological Association. (2017). Statement of Ethical Practice. [online] available from: https://www.britisoc.co.uk/media/24310/bsa_statement_of_ethical_practice.pdf
- Cantillon, B., Gábos, A. and Goedemé, T. (2018). 'Social exclusion: empirical findings'. In: D'Ambrosio, C. (ed). *Handbook of research on economic and social well-being*. Northampton: Elgar, 206-229.
- Colofari, K.J., and Evans, B. (2016). 'Qualitative descriptive methods in health science research'. In: *Health Environments Research and Design Journal*, 9(4), 16-25.

References

- Chadwick, D.D., and Fullwood, C. (2018). 'An online life like any other: identity, self-determination, and social networking among adults with intellectual disabilities'. In: *Cyberpsychology, Behaviour, and Social Networking*, 21(1), 56–64.
- Charity Digital. (2023). Digital Inclusion Hub. [online] available from: <https://www.goodthingsfoundation.org/network/>.
- Chib, A., and Jiang, Q. (2014). 'Investigating modern-day Talaria: mobile phones and the mobility-impaired in Singapore'. In: *Journal of Computer-Mediated Communication*, 19(3), 695-711.
- Churchman, C.W. (1967). 'Wicked problems'. In: *Management science*, 141-142.
- Cooper, B. (2016). 'Intersectionality'. In Disch, L., and Hawkesworth, M. (eds). *The Oxford Handbook of Feminist Theory* Oxford: Oxford University Press, 385–406.
- Corbin, J.M., and Strauss, A. (1990). 'Grounded theory research: Procedures, canons, and evaluative criteria'. In: *Qualitative sociology*, 13(1), 3-21.
- Crenshaw, K.W. (1989). 'Demarginalizing the intersection of race and sex: a black feminist critique of antidiscrimination doctrine, feminist theory, and antiracist politics'. In: *University of Chicago Legal Forum*, 1989(1), Article 8.
- Davies, R. (2015). *eGovernment: Using technology to improve public services and democratic participation*. Policy Commons: Belgium.
- Digital NNS (2023a). Maximising opportunities for digital inclusion across Birmingham. [online] available from: <https://digitalnns.org.uk/>.
- Digital NSS. (2023b). Community Digital Skills Network. [online] available from: <https://digitalnns.org.uk/community-digital-skills-network/>.
- Digital Poverty Alliance. (2023a). Digital Literacy Project: helping over 50s in south Birmingham to use computers for better lives. [online] available from: https://digitalpovertyalliance.org/support_directory/digital-literacy-project-south-birmingham/
- Digital Poverty Alliance. (2023b). Directory for Research and Insights. [online] available from: <https://digitalpovertyalliance.org/dpa-directory-for-research-and-insights/>.
- Dobransky, K., and Hargittai, E. (2016). 'Unrealized potential: Exploring the digital disability divide'. In: *Poetics*, 58, 18-28.
- European Commission (2019). Digital Economy and Society Index (DESI) Ranking. [online] available from: <https://ec.europa.eu/digital-single-market/en/digital-economy-and-society-index-desi>.
- Ferlander, S., and Timms, D. (2006). 'Bridging the dual digital divide: A local net and an IT-café in Sweden'. In: *Information, Communication & Society*, 9(02), 137-159.
- Giddens, A. (1999). *Runaway world: How globalization is reshaping our lives*. London: Taylor & Francis.
- Giddens, A. (1991) *Modernity and Self-Identity*. Cambridge: Polity
- Giddens, A. (1984). *The Constitution of Society*. London: Wiley.
- Good Things Foundation. (2023a). National data banks will tackle digital poverty. [online] available from: <https://www.goodthingsfoundation.org/what-we-do/news/national-databank-tackles-data-poverty/>
- Good Things Foundation. (2023b). What is the National Digital Inclusion Network? [online] available from: National Digital Inclusion Network | Powered by Good Things (goodthingsfoundation.org)
- Guo, C., and Wan, B. (2022). 'The digital divide in online learning in China during the COVID-19 pandemic'. In: *Technology in society*, 71, 102122.
- Hannides, T., Bailey, N., and Kaoukji, D. (2016). *Voices of Refugees: Information and Communication Needs of Refugees in Greece and Germany*. BBC Media Action.

References







- Helling, A.L., Berthet, R.S., and Warren, D. (2005). Linking community empowerment, decentralized governance, and public service provision through a local development framework. Washington, DC: World Bank.
- Helsper, E.J. (2017). 'The social relativity of digital exclusion: Applying relative deprivation theory to digital inequalities'. In. *Communication Theory*, 27(3), 223-242.
- Helsper, E.J. (2012). 'A corresponding fields model for the links between social and digital exclusion'. In. *Communication theory*, 22(4), 403-426.
- Heit, E. (2000). 'Properties of inductive reasoning'. In. *Psychonomic Bulletin & Review*, 7, 569-592.
- Higgins, N., Ferri, D., and Donnellan, K. (2023). 'Enhancing Access to Digital Culture for vulnerable groups: the role of public authorities in breaking down barriers'. In. *International Journal for the Semiotics of Law*, 36(5), 2087-2114.
- HM Government. (2021). Get help with technology. [online] Available from: <https://get-help-with-tech.education.gov.uk/>.
- Holmes, H., and Burgess, G. (2022). 'Digital exclusion and poverty in the UK: How structural inequality shapes experiences of getting online'. In. *Digital Geography and Society*, 3, 100041.
- Jauhainen, J.S., Eyvazlu, D., Junnila, J., and Virnes, A. (2022). 'Digital divides, the Internet and social media uses among Afghans in Iran'. In. *Technology in Society*, 70, 102057.
- Katz, V.S., and Gonzalez, C. (2016). 'Toward meaningful connectivity: Using multilevel communication research to reframe digital inequality'. In. *Journal of Communication*, 66(2), 236-249.
- Khan, N.A., and Khan, A.N. (2019). 'What followers are saying about transformational leaders fostering employee innovation via organisational learning, knowledge sharing and social media use in public organisations?'. In. *Government Information Quarterly*, 36(4), 1013-1091.
- Leukel, J., Özbek, G. and Sugumaran, V. (2022). 'Application of logistic regression to explain internet use among older adults: a review of the empirical literature'. In. *Universal Access in the Information Society*, 1-15.
- Lim, S., and Pham, B. (2016). 'If you are a foreigner in a foreign country, you stick together: technologically mediated communication and acculturation of migrant students'. In. *New Media & Society*, 18(10), 2171-2188.
- Lips, M. (2020). *Digital Government: Managing Public Sector Reform in the Digital Era*. London: Routledge.
- Livingstone, S., Blum-Ross, A., Pavlick, J. and Ólafsson, K. (2018). *In the digital home, how do parents support their children and who supports them?* London: LSE.
- Lloyd, A., Kennan, M.A., Thompson, K.M., and Qayum, A. (2013). 'Connecting with new information landscapes: information literacy practices of refugees'. In. *Journal of Documentation*, 69(1), 121-144.
- Madianou, M. (2016). 'Ambient co-presence: transnational family practices in polymedia environments'. In. *Global Networks*, 16(2), 183-201.
- May, V.M. (2015). *Pursuing Intersectionality: Unsettling Dominant Imaginaries*. New York: Routledge
- McLoughlin, I. and Wilson, R. (2013). *Digital government at work: a social informatics perspective*. Oxford University Press: Oxford.
- Mergel, I. (2019). 'Digital service teams in government'. In. *Government Information Quarterly*, 36(4), 1013-1089.
- Mubarak, F. (2015). 'Towards a renewed understanding of the complex nerves of the digital divide'. In. *Journal of Social Inclusion*, 6(1), 71-102.
- Neal, S., Bennett, K., Cochrane, A., and Mohan, G. (2019). 'Community and conviviality? Informal social life in multicultural places'. In. *Sociology*, 53(1), 69-86.
- Nurture Development (2023). *Asset-based Community Development*. [online] available from: <https://www.nurturedevelopment.org/asset-based-community-development/>.
- Pittaway, J.J., and Montazemi, A.R. (2020). 'Know-how to lead digital transformation: The case of local governments'. In. *Government information quarterly*, 37(4), 1014-1074.

References

- Ranchordás, S. (2020). 'Connected but still excluded? Digital exclusion beyond internet access'. In. Ienca, M., Pollicino, O., Liguori, L., Stefanini, E., and Andorno, R. (eds). *The Cambridge Handbook of Life Sciences, Informative Technology and Human Rights*. Cambridge: Cambridge University Press.
- Ragnedda, M. (2018). 'Conceptualizing digital capital'. In. *Telematics and informatics*, 35(8), 2366-2375.
- Rittel, H., and Webber, M.M. (1973). 'Dilemmas in a general theory of planning'. In. *Policy Sciences*, 4(2), 155-169.
- Tsatsou, P. (2022). 'Vulnerable people's digital inclusion: intersectionality patterns and associated lessons'. In. *Information, Communication & Society*, 25(10), 1475-1494.
- Tsatsou, P. (2011). 'Digital divides revisited: what is new about divides and their research?'. In. *Media, Culture & Society*, 33(2), 317-331.
- Taipale, S., Oinas, T., and Karhinen, J. (2021). 'Heterogeneity of traditional and digital media use among older adults: A six-country comparison'. In. *Technology in Society*, 66, 1016-1042.
- Scheerder, A.J., Van Deursen, A.J., and Van Dijk, J.A. (2019). 'Internet use in the home: Digital inequality from a domestication perspective'. In. *new media & society*, 21(10), 2099-2118.
- Scheerder, A., Van Deursen, A., and Van Dijk, J. (2017). 'Determinants of Internet skills, uses and outcomes. A systematic review of the second-and third-level digital divide'. In. *Telematics and informatics*, 34(8), 1607-+1624.
- Scholz, F., Yalcin, B., and Priestley, M. (2017). 'Internet access for disabled people: understanding socio-relational factors in Europe'. In. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 11(1).
- Schou, J. and Svejgaard Pors, A. (2019) 'Digital by default? A qualitative study of exclusion in digitalised welfare'. In. *Social Policy & Administration*, 53(3), 464-477.
- Sefyrin, J., Gustafsson, M. and Wihlborg, E. (2021). 'Addressing digital diversity: Care matters in vulnerable digital relations in a Swedish library context'. In. *Science and Public Policy*, 48(6), 841-848.
- Smith, B. (2016). 'Intersectional discrimination and substantive equality: a comparative and theo-retical perspective'. In *The Equal Rights Review – Special Focus: Intersectionality*, 16(2016), 73-102.
- Stoker, G. (2006). 'Public value management: A new narrative for networked governance?'. In. *The American review of public administration*, 36(1), 41-57.
- Sylvain, O. (2016). 'Network equality'. In. *Hastings Law Journal*, 67, 443.
- Van Dijk, J. and Hacker, K. (2011). 'The digital divide as a complex and dynamic phenomenon'. In. *The information society*, 19(4), 315-326.
- Van Deursen, A., and van Dijk, J. (2014). 'The digital divide shifts to differences in usage'. In. *New Media & Society*, 16(3), 507-526
- Van Eijk, C. and Steen, T. (2016). 'Why engage in co-production of public services? Mixing theory and empirical evidence'. In. *International Review of Administrative Sciences*, 82(1), 28-46.
- Voermans, W., Napel, H.M., and Passchier, R. (2015). 'Combining efficiency and transparency in legislative processes'. In. *The Theory and Practice of Legislation*, 3(3), 279-294.
- Volkom, M.V., Stapley, J.C., and Amaturro, V. (2014). 'Revisiting the digital divide: Generational differences in technology use in everyday life'. In. *North American Journal of Psychology*, 16(3), 557.
- Warm Welcome. (2023). *Turning poverty and isolation into warmth and local connection*. [online] available from: <https://www.warmwelcome.uk/about-us>
- Wilson, C., and Mergel, I. (2022). 'Overcoming barriers to digital government: mapping the strategies of digital champions'. In. *Government Information Quarterly*, 39(2), 1016-1081.
- World Bank. (2023). *Individuals using the internet by percentage*. [online] available from: <https://data.worldbank.org/indicator/IT.NET.USER.ZS>

Contact Details:

Dr Nathan Kerrigan
Nathan.Kerrigan@bcu.ac.uk

-  birminghamcityuniversity
-  birminghamcityuni
-  myBCU
-  myBCU
-  myBCU
-  birminghamcityuni