Department for Levelling Up, Housing & Communities

# Local Digital programme: monitoring and evaluation scoping study

Public Group International, Society for Innovation Technology and Modernisation (Socitm) and Daintta

April 2024

This document/publication is also available on our website

If you have any enquiries regarding this document/publication, complete the form at http://forms.communities.gov.uk/ or write to us at:

Department for Levelling Up, Housing and Communities
Fry Building
2 Marsham Street
London
SW1P 4DF

Telephone: 030 3444 0000

For all our latest news and updates follow us on Twitter: https://twitter.com/luhc

April 2024

# Contents

**Contents** ..... **2**

**1. Introduction** ..... **3**

**2. The Local Digital programme** ..... **8**

**3. Defining a New Paradigm for digital in the local government sector** ..... **12**

**4. Theories of Change** ..... **19**

**5. Approach to evaluating the programme** ..... **71**

**6. Evaluation limitations** ..... **102**

**7. Conclusion and next steps** ..... **106**

**8. References** ..... **107**

**9. Appendix** ..... **110**

# 1. Introduction

## 1.1. Project context

1.1.1. Technology and cyber security are increasingly important to the modern local authority. Local services are delivered mostly online, residents expect high-quality digital interactions with their councils, and more councils are taking advantage of the opportunities presented by digital, data and technology such as analytics and artificial intelligence. At the same time, the risks related to technology faced by the modern council have never been higher. Councils need to be resilient against increasingly sophisticated and varied cyber security threats, and the financial, operational, and reputational risks for councils are higher, because of their shift to digital and data delivery models.

1.1.2. It is in this context that, in April 2023, the Department for Levelling Up, Housing and Communities (DLUHC) commissioned an independent consortium, consisting of PUBLIC, Socitm, and Daintta, to evaluate its Local Digital programme. This has been further supported by consultation with specialist economic consultancy Perspective Economics.

1.1.3. The Local Digital programme provides digital and cyber support to local governments in England - which includes local authority districts, country councils, and unitary and combined authorities. Its goal is to help councils take advantage of new opportunities and possibilities provided by digital transformation, while at the same time ensuring that councils are resilient and well-prepared to prevent and respond to emerging cyber threats. Given that digital transformation has the potential to affect every aspect of a modern council, this new paradigm that the programme aims to contribute towards is thought to deliver systematic and sustained impacts for English councils. The programme aims to deliver large-scale benefits - both for councils and citizens - such as reduced disruption to critical government services, higher quality local government services, an improved ability of council staff to support local leaders, and higher productivity and efficiency of local government operations.

1.1.4. The Local Digital programme has sought to achieve its aim through 5 distinct workstreams or interventions: Local Digital Fund, Future Councils, Cyber Support, Cyber Assessment Framework, and Training. Further details on these workstreams and their development can be found in chapter 2 of this study. (At the time of preparing this study, the programme was also undergoing changes to

refine the activities it funds.) It is important to highlight that these workstreams were primarily conceived independently of each other. This lack of integration presents material difficulties to an evaluation that seeks to understand the changes brought about by the Local Digital programme as a cohesive initiative.

1.1.5. To address this challenge, we propose a case study approach. This approach aims to provide a holistic view of the Local Digital programme that integrates the findings ascertained through evaluating the individual workstreams. The different parts of the evaluation engage dynamically with this lens to answer the overarching research questions.

1.1.6. First, the data collected on participating councils in the Process Evaluation will enable us to refine a typology of councils based on characteristics that help to explain why different councils participated. Accordingly, the Process Evaluation questions will be answered mostly on a workstream level.

1.1.7. Second, in the Impact Evaluation, the case study approach will come to full fruition. While we will assess the workstream's impact individually, these results will subsequently be interpreted from a case study lens and holistically integrated. This in-depth analysis will illustrate which workstreams, or combinations of workstreams, worked particularly well or poorly for which types of councils. Through this lens, the Impact Evaluation will provide meaningful results despite the data constraints that restrict more common Impact Evaluation approaches.

1.1.8. Third and finally, the Economic Evaluation will move away from this holistic perspective to understand the value for money of individual workstreams. We will leverage the case study typology to ascertain if certain types of councils were prone to benefit from the overall programme to supplement the individual analyses.

## 1.2. Evaluation stages

1.2.1. The present Scoping Study serves as the culmination of the second stage of the Local Digital programme evaluation.

1.2.2. **Stage 1. Feasibility stage. April - July 2023.** The focus during this stage was on assessing the practicality and viability of the Local Digital programme evaluation. This involved laying the groundwork for the subsequent stages, determining the feasibility of answering the evaluation research questions. Key

activities during this stage included defining the evaluation scope, identifying potential challenges, and ensuring the availability of resources.

1.2.3. **Stage 2. Scoping stage. August - December 2023.** The scoping stage was dedicated to a detailed examination of the programme's Theories of Change. This involved critically reflecting on the assumptions underlying the workstream interventions, defining the evaluation framework, and discussing the methodological approaches employed. This stage, resulting in the present Scoping Study, sets the foundation for a comprehensive evaluation by providing a clear roadmap for data collection and analysis.

1.2.4. **Stage 3. Preliminary process, and impact reporting stage. January - June 2024.** During this stage, data will be collected across workstreams following the Process and Impact Evaluation plan outlined in the Scoping Study. This data will be analysed to provide initial insights and observations which are shared through preliminary evaluation reports. The definition of the case study typology that will underpin the final evaluation will be carried out during this phase.

1.2.5. **Stage 4. Final reporting stage. July 2024 - March 2025.** During this phase, the final evaluation report will be written. This will consist of combining existing evidence and reports, but also refining existing documents considering new evidence. It will also include the Economic Evaluation. The final deliverables will be handed over to DLUHC, along with the evidence gathered, in March 2025.

## 1.3. Objectives of the Scoping Study

1.3.1. The Scoping Study's main objective is to propose a feasible approach to evaluating the Local Digital programme. The approach we propose is novel, largely qualitative in nature and specific to the evaluation restrictions presented by the programme. This qualitative approach has required the evaluation to scrutinise the conceptual ways in which the programme and its constituent workstreams have been expected to lead to their intended outcomes. Therefore, a large part of the Study investigates and dissects the Theories of Change for the programme and for the individual workstreams.

1.3.2. The Theories of Change lay out the rationale behind the Local Digital programme and describe how the combination of all 5 workstreams is assumed to help the programme succeed. These discussions offer a critical reflection of the underlying assumptions, laying out the constraints that may prevent the workstreams from succeeding to the extent originally envisaged by DLUHC.

Another large part of this Scoping Study aims to provide clarity about data sources and methods. Sound data sources and robust methodologies are important to ensure a transparent and reliable evaluation of each workstream.

1.3.3. To that end, we link the outcomes of each Theory of Change to the specific research tools we are using to collect data, and critically assess if the data are suitable to answer the research questions or if they only serve as an approximation. Potential risks of this are laid out. Based on the Theories of Change, we will then propose methodological approaches to evaluate the workstreams. These span qualitative and quantitative methods. Quantitative methods will be described in layperson terms whenever possible, yet their discussion still aims to offer enough depth to enable proper scrutiny. Approaches are weighed against different potential methods that we considered. The mathematical formulations of the quantitative methods we end up proposing are specified in the appendix.

1.3.4. The final aim of the scoping study thus is to give a realistic assessment of the possibility of answering the research questions posed by DLUHC, engage with the risks posed to successfully answering these research questions, and propose mitigation strategies to these risks where necessary.

## 1.4. Structure of the report

1.4.1. The next 4 chapters are as follows:

- **Chapter 2. The Local Digital programme.** This chapter provides an overview of the Local Digital programme, including how it has evolved in the last few years and the creation of its 5 distinct workstreams. Additionally, it outlines and provides a discussion of the objectives articulated in the programme's 2022 business case, specifically prepared for the Autumn 2021 Spending Review (SR21).

- **Chapter 3. A New Paradigm for digital in the local government sector.** In the third chapter, we identify the fundamental tenets of digital transformation that would lead to the new paradigm that Local Digital aims towards. To do so, we investigate the extant literature on digital transformation, particularly within the context of the UK local government sector. This process lays the groundwork for a framework that we will use to assess how comprehensively the Local Digital programme addresses these principles.

- **Chapter 4. Theories of Change.** The fourth chapter delves into the Theories of Change for both the Local Digital programme as a whole and each of its individual workstreams. It does so by providing an overview of each intervention and its intention (or rationale), before moving over into a more detailed discussion of each Theory of Change. This discussion entails the inputs, activities, outputs, outcomes, and impacts of each workstream. Finally, each workstream section ends with a subsection critically reflecting on each Theory of Change, discussing if the assumptions behind it are reasonable and which constraints may hinder the activities from succeeding.

- **Chapter 5. Approach to evaluating the programme.** This chapter presents the methodological approaches we take to the Process, Impact, and Economic Evaluations. We discuss the most tangible risks and what can be done to mitigate them - including how synergies across workstreams may be leveraged.

- **Chapter 6. Evaluation limitations.** In this discussion chapter, we take stock of the overall feasibility of producing robust Process, Impact, and Economic Evaluations across the Local Digital programme.

- **Chapter 7. Conclusion and next steps.** The final chapter concludes and notes the importance of continuous engagement with the local government sector to further ensure the Local Digital programme evaluation's success.

# 2. The Local Digital programme

## 2.1. Programme overview

2.1.1. The Local Digital programme, following on from the 2018 Local Digital Declaration (Local Digital, 2018), embodies a series of interventions initiated by the Local Digital team within DLUHC to drive the digital and cyber maturity of councils.

2.1.2. Its first workstream, the Local Digital Fund - which was included in the original 2018 business case - aims to provide funding and support for councils to meet the commitments outlined in the 2018 Local Digital Declaration. Following this, a suite of interventions was added, categorised into 2 broad paths: cyber and digital. This includes workstreams such as the Cyber Assessment Framework (CAF) and Cyber Support on the cyber side, which were each added in 2020, and a formal Training series on the digital side, which was added in 2021. In 2022, the programme sought to combine these paths with the introduction of Future Councils, encompassing both cyber and digital components.

2.1.3. The current iteration of the Local Digital programme consists of the following 5 workstreams:

- The **Local Digital Fund** workstream funds specific collaborative projects that explore the use of data and technology to tackle council challenges across service areas. Councils need to apply for funding by submitting a joint project bid with at least another 2 councils. Overall, the Local Digital Fund's aim is to increase the quality and efficiency of local government services through council-led digitisation.

- The **Future Councils** workstream explores ways in which local authorities and DLUHC can identify the common blockers and enablers of councils adopting modern and resilient practices, systems, and processes. This workstream aims to address blockers and enablers in ways that are both scalable within councils (across teams) and between councils (so other councils can benefit).

- The **Cyber Support** workstream is concerned with improving the cyber resilience of councils and their readiness to defend themselves against cyber threats, especially relating to malware and ransomware attacks. Funding was

deliberately awarded to councils according to their self-reported preparedness to prevent or recover from malware and ransomware attacks. The overall aim of the workstream is therefore to reduce the impact of malware or ransomware cyber risk on the delivery of services to citizens.

- The **Cyber Assessment Framework** workstream helps councils to assess their own cyber posture by adapting the National Cyber Security Centre's national Cyber Assessment Framework. In line with the UK Government Cyber Security Strategy 2022-2023, its aim is to establish the Cyber Assessment Framework as a routine part of managing cyber risks at the local authority level.

- The **Training** workstream attempts to support councils in improving staff digital and cyber skills and knowledge. Its main offer has included Agile Training for council staff, an Executive Education programme, and the Training Library, a directory of learning resources.

2.1.4. The current funding for the programme was agreed at the Autumn 2021 Spending Review (SR21) and was awarded £85.8 million until March 2025. A business case was agreed in 2022 which outlined the current programme composition and its objectives. As of March 2024, DLUHC has distributed £42,883,965 of this budget through direct grants to councils (in nominal terms). The total budget spent in delivering the programme will be identified as part of the evaluation. The respective chapters for each workstream detail the nominal value of funds through direct grants.

## 2.2. Programme objectives

2.2.1. The Local Digital programme's 2022 business case set objectives for each workstream that are to be achieved between 2022 and 2025. These are included below.

2.2.2. Local Digital Fund:

- continued support for the Local Digital Fund, with reuse by over 300 councils by end of the Spending Review (SR) period
- increase in key line of business systems across councils that are cloud-based
- increase in key line of business systems across councils using open standards

- major suppliers of key line of business systems adopting the principles of the Technology Code of Practice (TCOP)

2.2.3. Future Councils:

- ambassador councils have improved their cyber and digital maturity, with 10 councils joining in 22/23, and 22 at the end of the SR period
- ambassador councils have held events to share their learning and openly published outputs and/or guidance
- additional councils have adopted products or services developed by ambassador councils

2.2.4. Cyber Support:

- 120 councils resolve critical vulnerabilities and barriers to recovery by 22/23
- 50 councils have established and exercised Incident Response Plans in 22/23
- 200 councils have adopted NCSC Active Cyber Defences (ACD) in 22/23

2.2.5. Cyber Assessment Framework:

- Cyber Assessment Framework (CAF) published
- CAF adopted by 10 councils in 22/23; Councils show improvement against CAF

2.2.6. Training:

- 5% increase in confidence with skills and knowledge based on the LGA sector-wide survey (baseline taken in 22/23)
- council officer confidence post-training in digital/cyber knowledge

*2.2.7.* Aside from the objectives specific to each workstream, the business case outlines 2 additional objectives that are not tied to a particular workstream. Rather, they align with the overall aim of the Local Digital programme to enhance digital and cyber maturity across councils, which is expected to be achieved through a combination of the different workstreams and participation in activities organised by the Local Digital programme:

- 5% increase in the number of cyber and digital roles within councils based on the LGA workforce survey (baseline taken in 22/23)
- growth in the number of councils engaging in the local digital community (though events, social media channels, etc.)

## 2.3. Considerations on the programme objectives

2.3.1. In this section we note two challenges of assessing the impact of workstream and programme activities based on the 2022 business case objectives.

2.3.2. **Baselining limitations.** Our scoping activities have revealed that there are very limited baseline data that can be used in this evaluation. The 'baseline' mentioned in the Training workstream metrics (2022 Local Government Workforce Survey) is not suited to the limited reach of the Training workstream, which is one of many existing skills enhancement activities. As we discuss in the Theories of Change, the impact of some workstream activities may not be identifiable at the council level. This restricts the use of quantitative, counterfactual-based evaluation approaches. Furthermore, the activities carried out in workstreams that have functioned since 2018 – before SR21 – means that some of the local authority sector had been exposed to the programme prior to any baselining in 2022. This poses a challenge to robustly identifying a group of comparator councils that have not been affected by the programme.

2.3.3. **The programme objectives do not necessarily capture the realisation of the programme's vision.** Engagement with the programme team, delivery partners and the Expert Advisory Group in the feasibility stage highlighted the importance of seeing the Local Digital programme as one part of a wider transitional movement. This transition is about creating the conditions for councils to be ready to a) harness the opportunities of digital services and ways of working, and b) withstand the threats presented by these and other aspects of the modern digital environment. It is thus more transitive rather than being about reaching a set goal. Accordingly, the programme's target objectives, which necessarily identified metrics that could be measured to varying extents, are considered to not adequately capture the programme's intended reach and impact.

2.3.4. Considering these limitations, we will explore the feasibility of assessing the extent to which these objectives were met, and our assessment of workstream impact will be primarily guided by the individual workstream Theories of Change developed in collaboration with intervention teams.

# 3. Defining a New Paradigm for digital in the local government sector

## 3.1. Introduction

3.1.1. Digital technologies and ways of working have transformed the way organisations work in every sector. While adoption of digital technologies has occurred at different speeds across different sectors, public and private sector organisations, almost without exception, have changed significantly considering new technological advances. Academic reviews confirm the anecdotal experience that the COVID-19 pandemic significantly accelerated, or even catalysed, these changes (Amankwah-Amoah et al., 2021). Digital trends that have been shaping organisations for over 20 years have significantly accelerated within this highly condensed time frame.

3.1.2. As we discuss in this section, it can be helpful to describe the changes that we have seen in our digital economy and organisations as a “paradigm shift” - from digitisation, to digitalisation, to now, digital transformation (Gong and Ribière, 2021; Mergel et al., 2019; Verhoef et al., 2021).

3.1.3. Understanding this shift is vital for understanding the aim of the Local Digital programme, and for contextualising our evaluation. This “paradigm shift” can provide a concept that unifies the various interventions under the Local Digital umbrella. This is needed because the programme consists of separate workstreams – some of which were not originally proposed in the 2018 business case – which do not have a single defining objective.

3.1.4. Discussions with the Local Digital team, as well as with an Expert Advisory Group reviewing our evaluation, have highlighted the importance of seeing the Local Digital programme within the unified concept of a digital “paradigm shift”. It means that, despite individual workstreams being designed separately, we can create a unified picture of how the Local Digital programme might work together. It also allows us to evaluate the Local Digital programme against this “paradigm”: specifically, to what extent the Local Digital programme has successfully supported councils on this transition to a new “paradigm” of digital transformation.

3.1.5. In practice, this framework allows us to assess the extent to which the Local Digital programme has created the conditions for councils to be ready to a) harness the opportunities of digital services and ways of working, and b) withstand the threats presented by these and other aspects of the digital environment.

3.1.6. The rest of this section outlines the underlying theoretical frameworks that describe this "paradigm" shift and examines its practical implications for local government by drawing on existing evidence and sector-specific studies. It then shows how the outcomes pursued by the Local Digital programme can be grouped together into this framework of a new "paradigm".

## 3.2. From "digitisation" to "digital transformation"

3.2.1. In 2018, Forbes published their article about the perils of confusing 'digitization, digitalization, and digital transformation' (Bloomberg, 2018). This article attempted to explain that differences between the terms stemmed from more than surface-level semantics. Indeed, years later, while organisations were adjusting to sudden shifts in operations, employment patterns, and business practices as a direct result of the COVID-19 pandemic, researchers found the need to develop a "unified definition for digital transformation" (Gong and Ribière, 2021). They argued, at this point, that researchers and practitioners would not be able to "advance the theory and practice of the discipline".

3.2.2. The term "digital transformation" has historically been used interchangeably with its related counterparts, "digitisation" and "digitalisation". We define these terms based on extant academic and industry-based literature:

- **Digitisation** involves moving to digitised versions of existing analogue processes. For example, converting paper documents in the public record to digital documents or images.

- **Digitalisation** involves using digital tools and technologies to change the processes themselves. For example, adopting remote consultation processes with GPs via telemedicine tools and technologies. Here, implementing the technology per se is not the digitalisation process. Rather, it is the institutional level shift in the process in which the GP consultations are conducted, for which digitisation (implementing the technology) and the possession of digital skills, are prerequisites for success.

- Finally, the unified definition of **digital transformation** (Gong and Ribière, 2021) is a fundamental change process, enabled by the innovative use of digital technologies accompanied by the strategic leverage of key resources and capabilities. It aims to radically improve an entity (for example, an organisation, business, or society) and redefine its value proposition for its stakeholders.

3.2.3. Taken in terms of chronological development, the process of digitisation subsequently led to the wider process or service-level of digitalisation, which itself then led to a wider, more holistic organisational digital transformation. This entailed acknowledging that the role of IT extends beyond mere support for change; rather, that there is a fundamental need to transform processes, individuals, policies, and leadership to successfully accomplish digital transformation (Mergel et al., 2019).

## 3.3. Digital transformation in the UK public sector

3.3.1. Since the creation of the Government Digital Service (GDS) in 2011, the UK government has outlined its commitment to driving system-level digital transformation across the UK public sector. This guidance is contained most clearly in its Service Manual and the associated Service Standard, which both describe the organisational, cultural, and technical enablers needed to build digital services. Key programmes of work like GDS's 'Communities of Practice' also actively aim to shift non-digital practices and behaviours across the public sector.

3.3.2. This commitment has continued throughout the initial years of the newer Central Digital and Data Office (CDDO) within the Cabinet Office. In 2022, the CDDO laid out its own updated roadmap for digital transformation with the vision of achieving a successful transformation of public services by 2025 (Central Digital and Data Office, 2022). Its 'Mission Six: A system that unlocks digital transformation' defines, amongst other things, a commitment to driving improvements in digital skills, cultures, funding and procurement approaches, technical standards, and other enablers.

3.3.3. Despite these clear commitments, several major reviews of digital performance have shown that these digital transformation ambitions have not been realised, certainly not in every department, team, and authority. A landmark review into digital projects across the UK public sector by the National Audit Office outlined this judgement clearly: 'Despite 25 years of government strategies and countless

attempts to deliver digital business change successfully, the findings of this report show a consistent pattern of underperformance' (National Audit Office, 2021). A similar conclusion was reached in the Health and Social Care Committee's review into digital transformation in the NHS in 2023: 'Successive governments have attempted digital transformation of the NHS. Progress has been slow and uneven, and there is now substantial variation between organisations' (Health and Social Care Committee, 2023).

3.3.4. Some of these failings were highlighted as public services were put under increased pressure during the COVID-19 pandemic. One notable House of Lords' report on lessons learned from COVID-19 laid out failings from the first year of the pandemic, as well as 8 key principles of public reform (House of Lords, 2020). This included recommendations that digital technology interventions to public services should be applied "intelligently" and that "the integration of services to meet the diverse needs of individuals and the communities in which they live is best achieved by public service providers working together at the local level and should be supported by joined up working across government departments at the national level".

## 3.4. Digital transformation in the UK local government sector

3.4.1. While there has not been a similar review on the state of digital transformation specifically in the local government sector, there is consensus amongst sector experts and practitioners that progress has been similarly slow and uneven. Indeed, the results of our initial survey of local authorities on their digital and cyber maturity (which we explain in more detail below) suggests that several councils are still early into their digital transformation journeys.

3.4.2. Frameworks and roadmaps for digital transformation in the sector have highlighted the systemic barriers and enablers for digital success in the sector. This can be seen most clearly in the recent digital transformation work led by the Local Government Association (LGA), which took a system-wide lens to develop a framework for digital transformation in consultation with practitioners and local government stakeholders.

3.4.3. Another such framework was developed by the Society For Innovation Technology and Modernisation (Socitm). It published a joint report (St George's House et. al, 2022) on building resilient people, communities, and places, and worked with the LGA and Solace to develop a joint framework of 12 local government digitisation outcomes. This has since been translated into a simple,

and accessible guide for local authorities to put this framework into practice - the Local Digitalisation Almanac (Local Government Association, 2022). This framework, whose outcomes are split equally between those driving digital transformation within the council and in local places more widely, takes a deliberately system-wide approach, outlining how digital transformation requires several key organisational and systemic enablers. These kinds of frameworks are useful for informing our approach to digital transformation in this evaluation and help to underpin the outcome areas we define and measure as part of the programme.

3.4.4. Finally, 2023 saw significantly increased interest in Artificial Intelligence (AI) across councils, with many authorities exploring use cases of AI for the first time, for example in piloting and deploying AI for process automation and predictive use. It is therefore expected that AI will drive significant shifts in how authorities use and manage technology. We note that local authorities will need to be supported to be a part of this future through cross-sector engagement, funding, regulations, and data foundations. This will be particularly critical to help mitigate against some of the risks or potential downsides associated with AI, including digital exclusion, lack of transparency, job losses, and mistrust within communities.

## 3.5. A tripartite framework for digital transformation

3.5.1. In the opening of this chapter, we highlight the importance of understanding the goal of the Local Digital programme in the context of steering a “paradigm shift” towards digital transformation in local government. Since the programme’s workstreams were joined up over time, the ambition of driving digital transformation can offer a unified view of their distinct efforts. This unified view serves as a guide for our evaluation.

3.5.2. However, the concept of “digital transformation” is multifaceted and does easily break up into concrete factors for evaluation. The dynamic nature of the digital landscape, characterised by the constant emergence of new technologies, such as AI, and related cyber threats, adds to this complexity. In this context, it is essential to view the endeavour to drive digital transformation as an ongoing process, rather than treating it as a fixed point.

3.5.3. In this way, driving digital transformation can be interpreted as building the capability and readiness to adapt to, and embrace, the continually evolving digital landscape. Within the framework of the Local Digital programme, this could be translated into enhancing the “readiness” of councils for digital transformation. In other words, creating the necessary conditions for councils to leverage the opportunities presented by new technologies for improving service delivery, while protecting themselves - and therefore their residents - from the emerging threats associated with these technologies and other dynamics.

3.5.4. To pinpoint these necessary conditions and establish a framework for evaluating the Local Digital programme, we have conducted a review of existing approaches. Notable frameworks, such as the “golden triangle” of people, processes, and technology (Uren and Edwards, 2023) stress the importance of identifying diverse factors crucial for effecting change. Similarly, Holt and Vardaman (2013) break down readiness for change into 3 levels: micro (individuals and their capabilities), meso (group membership level), and macro (structural factors influencing change). Additionally, frameworks emerging from the local government sector, including the aforementioned 12 local government outcomes of the Local Digitalisation Almanac, identify various elements facilitating digital transformation within a council setting.

3.5.5. Building on these frameworks and insights from the Expert Advisory Group, we have distilled 3 principles of digital transformation in local government. These principles will provide a structured framework for our evaluation activities:

- **System readiness.** This principle is about technological infrastructure. Our assessment will evaluate the Local Digital programme’s impact on establishing a robust technological foundation. This involves looking at the characteristics of existing software systems, data storage practices, procurement procedures, and other relevant aspects that contribute to overall system readiness.

- **Individual readiness.** Focusing on the preparedness of individuals to navigate and adapt to evolving digital landscapes, this principle recognises the human element in digital transformation. It involves evaluating the skills, knowledge, and adaptability of staff within councils. We will assess the extent to which the Local Digital programme has contributed to equipping council staff with the necessary skills to embrace new technologies, manage emerging threats, and effectively contribute to the digital transformation

process.

- **Organisational readiness.** This principle revolves around aligning organisational values and structures to support the overarching goals of digital transformation. Our evaluation will assess the Local Digital programme's influence on achieving this alignment by examining factors such as the existence of digital and cyber strategies, the presence of designated digital and cyber leads, and other organisational aspects indicative of readiness for digital transformation.

3.5.6. These 3 principles have informed the development of the Local Digital programme's Theory of Change. The upcoming chapter illustrates the alignment between these principles and the 9 outcomes outlined in the programme's Theory of Change that will guide our evaluation.

# 4. Theories of Change

## 4.1. Introduction

4.1.1. This section provides an in-depth analysis of the Theories of Change for the programme and the individual workstreams. The Theories of Change follow the structure and format outlined in the Magenta Book (HM Treasury, 2020) and DLUHC's template, covering the inputs, activities, outputs, outcomes, and impacts associated with the interventions. They provide a thorough understanding of the mechanisms driving the anticipated changes. In addition, we critically discuss the limitations of in each Theory of Change, unintended consequences, which acknowledge the unforeseen consequences that may emerge, and external dependencies that may influence the success of the intervention.

4.1.2. The development of the Theories of Change and subsequent discussion has been based on 4 main activities, conducted since May 2023:

- **Engagement with DLUHC core team and the Expert Advisory Group.** Regular engagement with DLUHC team members, including workstream leads and wider teams, has been used to develop, test, and refine Theories of Change, as they have the clearest understanding of what the programme and workstreams aim to achieve. The Expert Advisory Group has provided ongoing critique to support the evaluation to identify challenges in the causal pathways. We have worked with them to test assumptions and refine Theory of Change content where appropriate.

- **DLUHC documentation.** Documents made available through DLUHC, as well as publicly available information such as the Local Digital website (Local Digital, 2022), have also been a critical source of information. The rationale behind each workstream is most clearly depicted in how the workstreams are presented to the public, which is also a major source of information for councils that consider applying. This public-facing content has been augmented by information on application data, survey scores, and business cases received from DLUHC.

- **Academic and grey literature.** Detailing the Theories of Change includes literature reviews of external sources, which range from academic journals to white papers and newspaper articles. Such sources have helped to

contextualise the rationale behind workstreams. They also allow for a more substantiated discussion of the constraints that each workstream faces.

- **Engagement with participating councils and preliminary evaluation findings.** As we have already collected data pertinent to the evaluation of different workstreams, the detailed depiction of the mechanisms through which the interventions will lead to change is aided by the perspectives of different stakeholders. This includes interviews conducted in line with the Process Evaluation's research questions, but also conversations with DLUHC representatives or members of councils that are not directly part of the evaluation.

4.1.3. We first present the extended programme Theory of Change, followed by the extended *workstream* Theories of Change. As these are primarily evaluation tools, readers interested in understanding the approach we propose to confirm the Theories of Change through the evaluation may wish to read on from Chapter 5.

## 4.2. Overall Local Digital programme

### Theory of Change

4.2.1. The overall programme Theory of Change is extended from an initial version developed by DLUHC in 2023. In this section, we outline how the individual workstreams contribute to a broader set of programme-level outcomes and contribute to the unifying new paradigm.

4.2.2. **Inputs.** The programme utilises input from DLUHC staff, DLUHC funding, and council staff, as well as staff and resources from third parties contracted by DLUHC. The relevance of these inputs for the individual workstreams differs across them.

4.2.3. **Activities.** The individual workstreams are the 5 main activities undertaken to facilitate the success of the Local Digital programme: Local Digital Fund, Future Councils, Cyber Support Fund, Cyber Assessment Framework, and Training. These activities represent the programme as it consisted at the beginning of this monitoring and evaluation work; some workstreams were in the process of changing during the preparation of this study. To avoid repetition, the high-level characteristics of these workstreams are stated under 'Outputs'.

4.2.4. The programme also has a suite of supporting activities, including a communications team to support interaction with councils and the public, a commercial team to investigate the relevant council procurement markets, and a senior leadership team responsible for strategy. Other supporting functions include a policy team spread across the digital and cyber workstreams, which engages with ministers and supports the continuous development of Local Digital's direction, and an economist to support analysis and evaluation.

4.2.5. **Outputs.** Through different combinations of the successful implementation of these activities, several outputs are expected:

- **Development of scalable council-led digital solutions and initiatives.** Through the Future Councils and Local Digital Fund workstreams, the Local Digital programme provides councils with the capabilities and resources to use technology and data, facilitating the creation of new digital solutions geared towards improving service delivery. Anticipated outputs encompass scalable software components, establishment of data and digital standards, refinement of data processes, and any initiatives initiated by councils to propel digital transformation. All outputs are expected to effectively address shared challenges and be applicable across the sector.

- **Opportunities for councils to develop and apply agile and digital delivery skills.** The Local Digital Fund and Training workstreams are concerned with delivering opportunities to councils to acquire and implement agile delivery skills in digital project delivery. In this way, the expected output is the enhancement of councils' proficiency in agile and digital delivery practices, fostering a more adept and resilient local government sector.

- **Development of council cyber security plans and strategies.** Through the Cyber Support, Future Councils, and the Cyber Assessment Framework workstreams, the programme provides councils with varying degrees of resources and support to measure their cyber posture. These workstreams are expected to result in the development and implementation of cyber security plans.

- **Baselining of councils' cyber posture and identification of high-priority areas.** The measurement of councils' cyber posture - carried out as already mentioned - is anticipated to provide an overview of the sector's cyber posture and highlight key priorities from which improvements can be made by

councils in the future.

- **Opportunities for councils to engage and collaborate in digital and cyber projects.** All workstreams, particularly the Local Digital Fund and Future Councils, provide opportunities for councils to engage in cross-sector collaboration. By fostering a collaborative environment across councils, the programme aims to create a platform where shared challenges can be collectively addressed. In this way, the expected output is the promotion and facilitation of cross-sector collaboration, enhancing the overall effectiveness and resilience of the local government sector in the digital era.

- **Identification of digital and cyber challenges, opportunities, and requirements across the sector.** Another important aspect in fostering cross-council collaboration is establishing a shared language and understanding across councils and the local government sector. Such mutual understanding of priorities in terms of digital services, agreement about ways of working - such as agile - and a joint prioritisation of cyber risks makes it easier for councils to communicate and clarify objectives, effectively removing a barrier to collaboration.

4.2.6. The overall likelihood of the listed outputs occurring depends on the successful delivery of the workstreams' activities and the extent to which the expected causal mechanisms play out (this is discussed in the following workstream subsections). In other words, the successful delivery of the Future Councils, Local Digital Fund, Cyber Support, Cyber Assessment Framework, and Training workstreams is a prerequisite for the programme to meet its overall ambitions. Whilst it is possible that one or more workstreams do not meet their intended outcomes, this would not necessarily mean that the Local Digital programme fails to meet its intended outcomes.

4.2.7. **Outcomes.** As highlighted in this section, the Theory of Change for the Local Digital programme has been formulated retrospectively, following the design of the individual workstreams rather than at the outset. However, defining the Theory of Change for the programme, even retrospectively, enables the identification of overlaps across individual workstreams. This approach facilitates the assessment of their combined impact on the local government sector and gauges the overall contribution of the programme to digital transformation in the sector.

4.2.8. Consequently, we have identified overlaps and commonalities among individual workstream outcomes, categorising them into 9 distinct "outcome areas". These outcome areas have been shaped by our tripartite digital transformation framework. In other words, we have examined the desired outcomes of the Local Digital programme with a focus on enhancing individual, system, and organisational readiness for digital transformation. Next, we list these areas (in no particular order), indicating their alignment with individual workstreams, as well as the 3 core tenets of digital transformation. For a comprehensive breakdown of how each individual workstream outcome aligns with the overarching outcome areas, please refer to the appendix.

- **Outcome area 1. Councils invest in the exploration and adoption of innovative digital solutions.** This first outcome area reflects the Local Digital programme's aim to incentivise the local government sector to leverage technology and data to improve service delivery. This can be achieved through funding the development of specific digital solutions (Local Digital Fund), identifying, and tackling challenges to local digital transformation in councils (Future Councils), or encouraging senior leadership to prioritise digital transformation in their councils (Training). The resulting development and investment in new digital systems contribute to System Readiness, while the evolving emphasis on digital transformation in council strategies signifies a cultural shift that enhances Organisational Readiness.

  **Relevant workstreams: Local Digital Fund, Future Councils, Training.**
  **New paradigm focus: System Readiness and Organisational Readiness.**

- **Outcome area 2. New digital solutions and initiatives lead to improved outcomes for staff and residents.** Digital solutions developed through Local Digital Fund projects and initiatives arising from addressing local challenges identified through Future Councils activities are anticipated to lead to better outcomes for both staff and residents, as well as across the sector as these solutions scale. The central goal associated with this outcome is to play an active role in improving the technical foundations and operational capabilities of the digital ecosystem. This endeavour closely aligns with the digital transformation paradigm tenet of System Readiness.

  **Relevant workstreams:** Local Digital Fund, Future Councils**.**
  **New paradigm focus:** System Readiness.

- **Outcome area 3. New digital solutions and initiatives lead to cost savings.** Similar to Outcome area 2, the third outcome area is mainly linked to the digital solutions developed through the Local Digital Fund and Future Councils workstreams, aligning with the paradigm tenet of System Readiness. Savings are expected to materialise as new solutions contribute to (1) driving more efficient processes, thereby reducing time and resource requirements, and, in certain cases, (2) leading to licence and contract savings by allowing councils to transition away from technology that does not meet councils' needs.

  **Relevant workstreams:** Local Digital Fund, Future Councils.
  **New paradigm focus:** System Readiness.

- **Outcome area 4. Local government software market offers better value-for-money.** Linked to the 3 preceding outcomes, the quality of software solutions is anticipated to increase as councils invest, develop, and deploy effective digital solutions, scaling them across the sector. This anticipated growth in alternative products in the market is expected to incentivise suppliers to improve their offerings. The consequent improvement in software solutions is expected to contribute to System Readiness by delivering better value, especially in aspects such as system integration, data migration, and overall flexibility of the markets' offerings.

  **Relevant workstreams:** Local Digital Fund, Future Councils.
  **New paradigm focus:** System Readiness.

- **Outcome area 5. Councils improve digital and cyber skills and ways of working.** Participation in educational courses (Training), and involvement in digital and cyber transformation projects (Local Digital Fund and Future Councils) is expected to result in increased digital capabilities, contributing to Individual Readiness. As individuals share and implement these skills in their councils, the contagion effect is expected to contribute towards a culture shift leading to Organisational Readiness for digital transformation.

  **Relevant workstreams:** Local Digital Fund, Future Councils, Training.
  **New paradigm focus:** Individual Readiness and Organisational Readiness.

- **Outcome area 6. Councils collaborate on digital and cyber projects more effectively.** The Local Digital Fund, and Future Councils aim to promote collaborative efforts in developing and replicating new digital and

cyber solutions and initiatives throughout the sector. These workstreams, together with Training, are anticipated to not only enhance the skills of participants but also facilitate the sharing of insights and best practices across the sector. Aligned with the new paradigm focus on Organisational Readiness, this outcome highlights the importance of cultivating a culture shift to collectively increase sector readiness to adapt to a digitally transformed environment.

**Relevant workstreams:** Local Digital Fund, Future Councils, Training.
**New paradigm focus:** Organisational Readiness.

- **Outcome area 7. The local government sector develops a clearer understanding of common digital and cyber challenges.** All workstreams contribute to varying degrees to increase DLUHC's understanding of the challenges and requirements faced by councils in digital transformation. However, the Future Councils and Cyber Assessment Framework workstreams have been particularly designed with this goal in mind, aiming to increase understanding not only within DLUHC but also across the entire sector. This outcome contributes to driving Organisational Readiness, as it focuses on improving the collective understanding of challenges and needs to prepare councils for digital transformation.

  **Relevant workstreams:** Future Councils, Cyber Assessment Framework.
  **New paradigm focus:** Organisational Readiness.

- **Outcome area 8. Councils develop more effective cyber risk and mitigation approaches.** Both the Cyber Support Fund and the Cyber Assessment Framework are expected to support councils in adopting a proactive culture for effectively recognising and mitigating risks related to cyber security, aligning with the digital transformation focus on Organisational Readiness.

  **Relevant workstreams:** Cyber Support Fund, Cyber Assessment Framework.
  **New paradigm focus:** Organisational Readiness.

- **Outcome area 9. Councils develop more effective cyber response and recovery strategies.** The Cyber Support Fund is anticipated to strengthen and enhance council strategies for responding to and recovering from cyber

incidents. In line with the previous outcome, this will contribute to enhancing Organisational Readiness.

**Relevant workstreams:** Cyber Support Fund.
**New paradigm focus:** Organisational Readiness.

4.2.9. It is important to note that in the multidimensional landscape of digital transformation, outcomes often contribute to multiple aspects simultaneously, and the boundaries between System, Individual, and Organisational Readiness can be fluid.

## Discussion

4.2.10. The Local Digital programme currently features 5 workstreams, all of which will be evaluated. These evaluations will then serve as the basis for the overall programme's evaluation. As the workstreams were not designed as a unified effort, this is not a straight-forward approach. Thus, here we discuss synergies and joint challenges across workstreams that should be considered.

4.2.11. As previously noted, the programme is currently undergoing change. The evaluation of the programme, by its nature, will be a backwards-looking analysis of what the programme has achieved in the past, the findings of which will support the programme's change. However, its monitoring will adapt to the changing programme structure wherever feasible, and this study outlines where this can be done based on our current understanding of the changes. Both monitoring and evaluation efforts will therefore continue to be informative for the programme and wider DLUHC policy.

### Synergies across workstreams

4.2.12. We have identified synergies across the workstreams, which help to understand the overall Local Digital programme as a joint effort. Most of these synergies are relevant to several workstreams.

4.2.13. **Modularity.** The modular approach represented by 5 different workstreams allows the amendment of individual aspects of the workstreams, without necessarily affecting the wider Local Digital programme.

4.2.14. **Interlinkage.** It is evident that some of the workstreams require considerable engagement from councils. Coupling such engagement with other workstreams, for instance funding through Future Councils, can help to support the components of the Local Digital programme that are not associated with direct grants (and which may be more attractive to councils considering to participate).

4.2.15. **Self-perpetuation of agile working.** Introducing agile ways of working to councils means that, even for projects that fail, councils will potentially have the project management toolkit to draw something valuable from these failures. Combining the individual level of these modern ways of working, which is done through training, with concrete use cases and applications, which the Local Digital Fund has done, for instance, can help institutionalise these ways of working. This can help councils to continuously seize opportunities that improve their digital service delivery.

### Joint challenges

4.2.16. While the synergies can be interpreted as upsides of the approach of combining the 5 individual workstreams, the workstreams are also subject to common challenges. Such recurring difficulties make certain shortcomings of the overall programme more evident.

4.2.17. **Level of intervention.** Many of the workstreams influence different levels, yet the implicit expectation is that the interventions' effects become ingrained in the wider participating organisations. While it is reasonable that the different workstreams focus on different levels, it is unclear what is done to link these levels or institutionalise the intervention. This could lead to outcomes being unsustainable, or at the very least not be realised to their full potential.

4.2.18. **Unclear targeting.** Some of the workstreams' targets are relatively unspecific. For instance, most training offerings can be sought by any interested council staff that have capacity. The Cyber Support workstream, on the other hand, is targeted at very specific councils - those who performed poorest in a prior cyber risk assessment. The different targets make it hard to evaluate the aggregated impact of the overall programme, as councils are typically subject to different workstream interventions.

4.2.19. **Lack of strategic involvement of stakeholders.** Council leadership is rarely involved in the deployment of activities. As a result, it is plausible that the councils' strategic capabilities do not directly benefit from the interventions, bar

some exceptions. Failure to institutionalise the interventions by integrating them into the upper echelon of councils will likely negatively impact how sustainable the interventions' outcomes are.

4.2.20. **Unrealistic perspective on collaboration.** The workstreams' perspectives on collaboration tends to be uncompromisingly optimistic. However, extant literature tells us that innovation is often incremental and is hard to force. While collaboration is a cornerstone of innovation across the public and private sector, this is often a product of iterative steps and dependent on similar goals, cultural codes, and approaches, to name but a few facilitating factors. Treating collaboration as something that is a by-product or can be imposed as a requirement for a given project ignores these caveats.

### Unintended consequences

4.2.21. We will go through unintended consequences in detail for each workstream, but we have also identified 2 key unintended consequences for the programme, which we include in this section.

4.2.22. **Negative response from software market.** The programme is implemented in a context where private markets play a considerable role. Although some workstream activities aim to influence the market positively, market reactions to the activities and/or outcomes of the workstreams are unclear. Indeed, the programme may be perceived by the market as a large-scale effort capable of shaping the competitive landscape. Reactions to these may either be a heightened sense of competitiveness and inventiveness of market suppliers to stay relevant, which would provide councils with improved third-party options. However, market suppliers may also react in reducing their offerings for the public sector, as they perceive the space as either too restrained by indirect central government intervention, or too competitive given the threat of future entry of suppliers or products, which may lead to councils missing out on preferable solutions.

4.2.23. **Lowered sense of responsibility.** The Local Digital programme is a central government intervention. While the programme is expected to set participating councils on a path to more agency and a more proactive stance, the combination of funding and professional support provided centrally may lead to a lowered sense of responsibility for improving certain aspects of their digital and cyber posture. This may especially be true for councils that have so far not prioritised digital transformation and cyber security.

### External dependencies

4.2.24. The successful implementation of the Local Digital programme is contingent upon various external dependencies that might influence the outcomes of the intervention. While we present in the following sections a detailed examination of specific external dependencies for each workstream, we have also identified a set of key dependencies that impact the Local Digital programme as a whole:

4.2.25. **Council leadership.** Council leadership significantly shapes the Local Digital programme's impact across councils by influencing awareness, application, and focus of participation. Leadership decisions affect project selection and the individuals spearheading initiatives within the council, thereby playing a key role in amplifying, or constraining the programme's impact. Leadership changes, especially if new leaders diverge from previous views, can impact ongoing activities, potentially altering or discontinuing initiatives.

4.2.26. **Funding availability.** Together with council leadership, the funding that councils themselves have available for digital and cyber improvements is one of the key factors that will influence the success of the Local Digital programme. The scale and long-term sustainability of digital and cyber initiatives hinge on the budget allocated to the council and the percentage earmarked specifically for these activities.

4.2.27. **Digital infrastructure.** The capacity of participating councils across various workstreams to execute digital transformation projects and the resultant impact are tethered to their existing digital infrastructure. This encompasses the council's current hardware and software assets, as well as broadband and data centres. These elements play a crucial role in shaping the programme's impact by (1) delineating the possibilities within the council, (2) constraining the effectiveness of certain activities within the council, and (3) influencing the enduring impact of an activity or initiative conducted with the current infrastructure in mind, especially when changes to this infrastructure occur.

4.2.28. **Software market.** The software market is a critical dependency for the success of the Local Digital programme. The current digital infrastructure of councils sets constraints on the implementation of digital initiatives, impacting the flexibility of existing suppliers in areas like integration, data migration, or implementing recommendations from workstream activities (for example, enhancing cyber security). This flexibility can either enhance or limit the overall impact of the Local Digital programme. Moreover, shifts in the software market could make some

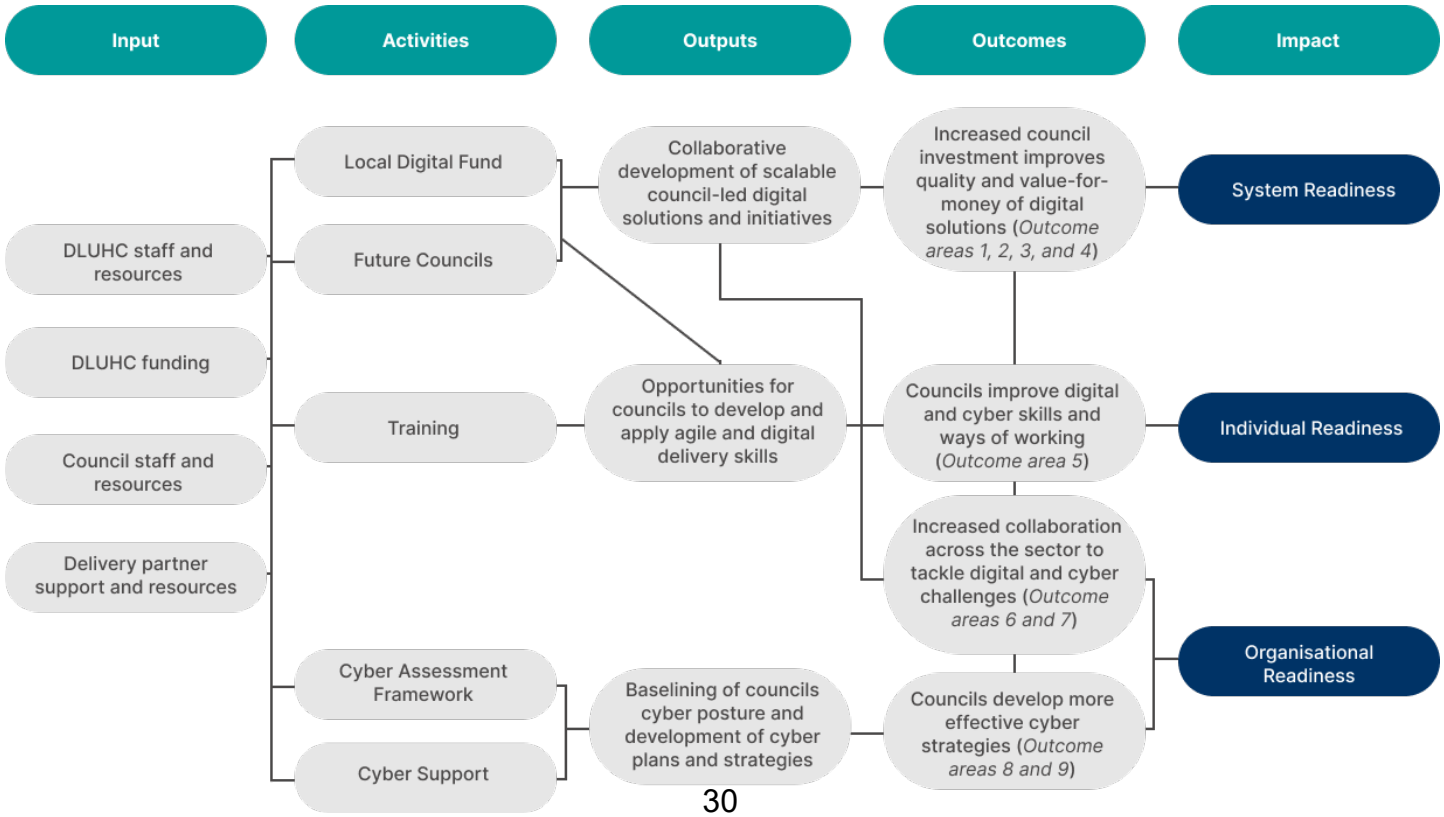
funded activities obsolete. Emerging solutions that compete with those developed through the Local Digital Fund may hinder their widespread adoption, restricting their impact.

4.2.29. **Policy changes.** Policy changes that occur during the interventions can influence the impact of the Local Digital programme. For example, modifications in data protection policies may necessitate adjustments in the handling and storage of digital information within the funded projects. Similarly, changes in government cyber security policies could potentially alter the focus or priorities of ongoing initiatives.

## Local Digital programme logic model

4.2.30. Figure 1 illustrates an abbreviated version of the Local Digital programme Theory of Change outlined in this section. Arrows are used to indicate causal relationships. The Theory of Change flows from input over activities, outputs, and outcomes to the impact, which is the New Paradigm Alignment. The extended version can be found in the appendix. The remainder of this section outlines the Theories of Change for the individual workstreams. Readers interested in understanding the proposed method of evaluating the programme and workstreams may wish to read on from Chapter 5.

**Figure 1. Local Digital programme visual logic model (abbreviated version).**



## 4.3. Local Digital Fund

### Workstream overview

4.3.1. In 2018, the Local Digital Declaration was published by DLUHC, the Government Digital Service (GDS), and a collection of government departments, councils, and sector bodies from across the country (Local Digital, 2018). It communicated a joint vision for the future of local public services, encouraging all councils to work together to:

- design services that best meet the needs of citizens
- challenge the technology market to offer the flexible tools and services we need
- protect citizens' privacy and security
- deliver better value for money

4.3.2. The Local Digital Fund was set up in the same year and comprised the first workstream of what would later become the Local Digital programme. It was open for application to councils that were signatories of the Local Digital Declaration to achieve its ambition. The Fund's key emphasis was to foster collaboration to harness the collective. DLUHC deemed this necessary because of a view that councils often tackled digital projects and technology adoption individually. These insular approaches can "create inefficiencies in the sector, leading to missed potential for learning and collaborating, and perpetuating the use of inflexible technology" (Ministry of Housing, Communities and Local Government, 2017).

4.3.3. Accordingly, the Local Digital Fund was designed to incentivise councils to (1) identify problems faced across councils, and (2) define sector-wide technology systems, standards, and patterns. In this way, applications to the Local Digital Fund needed to be submitted by a consortium of councils, including a lead council (who receives the money and leads delivery activities), and at least 2 partner councils (that provide delivery support to the lead council). They can also include other relevant public sector organisations as partners.

4.3.4. In addition to its collaborative element, the Local Digital Fund was designed based on the GDS Service Manual (Government Digital Service, 2023) service design guidelines. This means that instead of providing a large amount of funding to end-to-end projects, it funds individual project phases following the

GDS Agile project delivery phases: Discovery, Alpha, and Beta. The aim of this approach is to follow digital delivery best practices, encouraging continuous learning and iteration. To do this, the Local Digital Fund also included the provision digital skills training to build agile capabilities across the sector.

4.3.5. As of March 2024, DLUHC has awarded over £16 million of funding to 61 council-led projects (113 project phases) through the Local Digital Fund across 6 rounds, a Covid-19 Challenge round, and the Continuous Funding Model. Through this last model, existing projects received funding for their next phase without having to submit a formal application, designed to help project teams maintain momentum and continuity.

## Theory of Change

4.3.6. The Local Digital Fund's Theory of Change illustrates the outcomes that must occur for the related activities - and their tangible/intangible product outputs - to lead to the desired impact. In this section, we present the workstream's Theory of Change, illustrating that the outcomes of the Local Digital Fund - which operates as a project-based funding programme - will mainly vary depending on each project's activities and outputs. Variations across projects are influenced by 2 main factors: (1) the phase of the funded project (i.e., Discovery, Alpha, Beta), and (2) the nature of the solution developed by each project.

4.3.7. **Inputs.** The delivery of Local Digital Fund projects involved a combination of funding allocated to selected projects by DLUHC, additional DLUHC staff time and resources to manage programme administrative tasks and provide individual project support, and council staff time and resources.

4.3.8. The Local Digital Fund team had Engagement or Collaboration managers responsible for (1) identifying and facilitating opportunities for collaboration across projects, and (2) organising sector-wide events to encourage cross-council engagement.

4.3.9. **Activities.** The implementation of this intervention involved specific activities conducted by DLUHC and/or intervention delivery partners, including: (1) providing individual agile delivery project support, (2) delivering agile delivery training to a restricted number of project team members, and (3) facilitating cross-council conversations through project monitoring led by DLUHC Collaboration Managers and organising engagement events.

4.3.10. Depending on the phase of the funded project, lead and partner councils were engaged in Discovery, Alpha, or Beta project delivery. Project delivery was often undertaken by a group of council staff with the support of a delivery partner. These core activities are expected to have resulted in the outputs detailed next.

4.3.11. **Outputs**:

- **Agile delivery training attendance.** The opportunity to participate in agile delivery training is expected to result in attendance to this training across individuals in project delivery teams.

- **Engagement in collaboration activities.** Councils are expected to be involved in collaboration activities. These include, for instance organising 'show and tells', attending project governance boards, and openly publishing project delivery updates.

- **Adoption of agile methods in project delivery.** Both the individual support provided by DLUHC and the opportunity to attend agile delivery training, is expected to lead into project teams adopting agile methodologies. This can include dividing the project into sprints, organising project stand-ups, or applying a Kanban approach to project management.

- **Discovery project findings.** All funded projects were required to produce a set of deliverables at the end of each project stage. For Discoveries, this includes a (1) business case or benefits case, (2) user research report, and (3) conclusion as well as next step recommendations.

- **Alpha project findings and prototype(s).** Projects funded in the Alpha phase were expected to result in the same deliverables as those required for Discovery projects, with the addition of an accessible output, such as a prototype, user experience demo, or set of instructions.

4.3.12. Following guidance in the GDS Service Manual, only projects that reached the Beta stage are expected to deliver a product or solution that is ready to be adopted by the intended users. It is important to note that one of the key principles of agile delivery is continuous improvement. The end of the Beta phase marks the start of the 'live' phase of the project, where the developed

solution is made available to all intended users. However, the solution is expected to be iterated and updated as needed throughout its live phase.

4.3.13. As projects tackled a variety of problems, Beta projects resulted in different types of products or solutions. An Impact Evaluation of the Local Digital Fund will therefore have to consider the effects of the projects on 2 fronts: (1) their contribution to achieving the change outlined in the Fund's goals, and (2) their near-term results or outcomes expected to facilitate this progress. As of December 2023, out of the 61 funded projects, 27 have reached the Beta or Live stage. We have classified the outputs generated from these projects into 3 categories, based on their nature:

- **Beta. Open-source software systems or components.** 16 out of the 27 funded projects that have reached the Beta or Live stage have resulted in the development of software applications, platforms, or tools. These can be separated into 3 subcategories depending on whether they were created to: (1) replace an existing council system, (2) improve or add functionality to an existing system, or (3) digitise a manual process. The Local Digital Fund requires that all software outputs are made available with an open-source licence, allowing the broader community to access, use, modify, and contribute to the software.

- **Beta. New data processes.** Out of the 27 projects, 8 have led to the development of new data processes that leverage data in innovative ways to address specific challenges or improve services (for example, using children's services data to make placement demand projections and prepare accordingly). These projects are usually accompanied by the development of a tool or open-source software component to support the implementation of this new process.

- **Beta. Open data and digital standards. 3** out of the 27 funded projects have led to the development of guidelines, formats, and specifications regarding (1) data practices (for example, developing data standards for structuring and storing data regarding vulnerable residents), and (2) digital practices (for example, developing standard requirements for buying housing management software). Similarly, to the software systems, by requiring that councils openly share these outputs, the Local Digital Fund seeks to help organisations to publish, access, share, and use better quality digital practices, and data.

4.3.14. **Outcomes.** The outputs of the Local Digital Fund workstream are expected to lead to short-, intermediate, and long-term outcomes, depending on how long it is expected for the outputs to be delivered and/or to result in a tangible change.

4.3.15. **Short-term outcomes.** In the short term, the application of agile methodologies in project delivery - with relevant training and support - is expected to build digital capability across funded teams. Likewise, the engagement in collaboration activities should lead to successful cross-council collaboration and lesson sharing. Regarding project delivery, outputs are expected to be successfully deployed or implemented. In the case of Discoveries and Alphas, this translates into the transition to either (1) the next project phase (i.e., Alpha or Beta), or (2) an iteration of the current phase based on project findings and recommendations. It should be noted that councils can decide to internally fund the next project phases and deliver them outside the Local Digital Fund.

4.3.16. In the case of Beta projects, the expectation is that generated outputs will be deployed or implemented within a council setting, and ideally across multiple councils to maximise the reach of their potential impacts. For outputs which fall under the categories of systems and standards, the acquisition or adoption of these outputs by a third party (for example, software vendor) would also be considered a step towards implementation.

4.3.17. **Intermediate outcomes.** Project teams that have developed digital delivery skills through programme activities are expected to start sharing and applying these across their councils. Likewise, seeing the potential benefits of cross-council collaboration could lead project teams to promote this approach as part of non-funded projects within their councils. Finally, regardless of whether projects progress to Beta, which entails the development and deployment of a finalised output, the findings, and learnings from the delivery of digital projects are expected to be shared across councils. This sharing routine potentially leads to the initiation of new digital transformation projects.

4.3.18. There were 2 medium-term expectations regarding project delivery: (1) the implementation of project outputs within a council will lead to cost savings, time savings, and better outcomes for residents, and (2) the project outputs will be scaled across councils. As shown in the visualised logic model included later in this section, the expected benefits arising from output implementation depend on the output type.

4.3.19. **Long-term outcomes.** There are 2 different groups of long-term outcomes: (1) outcomes expected to be achieved across all projects regardless of their phase or output type, and (2) outcomes expected to be achieved following the development and deployment of projects in the Beta phase. The first group of long-term outcomes includes the following:

- **Adoption of agile and collaborative ways of working increases.** If this work approach is shared across councils, it could lead to an increase in collaboration across the local government sector, potentially leading to further efficiencies. Similarly, the development and sharing of agile delivery skills could lead to the spread of this approach across councils, thus realising the benefits from applying agile in more councils' IT teams.

- **Investment in digital transformation increases.** It is expected that both the skills acquired through training and the delivery of funded digital transformation projects, and the findings emerging from funded projects, might lead to project teams promoting or initiating new digital transformation projects across their councils. This could lead to an increase in digital transformation investment from these councils to support and fund these initiatives.

4.3.20. The second group of long-term outcomes, which follow the deployment of Beta projects, include:

- **Interoperability increases across councils.** One of the key goals of the Local Digital Fund is the sharing and implementation of project outputs across councils. If Beta project outputs are successfully deployed and scaled, this would be expected to lead to increased levels of interoperability across council systems.

- **Economies of scale are realised.** If project outputs are successfully scaled across councils, it is expected that this would lead to economies of scale. Whether and to what extent this is possible will depend on the type of output. Developed software systems can, for the most part, be rolled out across councils with only the additional investment associated with set-up and maintenance costs. Maintenance costs could also be subject to economies of scale if the ownership and maintenance of the system is centralised. However, the average cost of adopting a new data process or standard is unlikely to significantly reduce regardless of the number of councils that adopt

it.

- **Software market competition increases.** If developed software solutions are successfully adopted by councils, they would be regarded as alternatives to existing market solutions, potentially leading to an increase in market competition.

- **Quality of software solutions in the market improves.** In turn, increased competition in the software market might encourage existing software vendors to enhance their solutions and offer better value to councils.

- **System cost savings are achieved across councils.** If developed software outputs lead to cost savings - that is, their acquisition, licence, and maintenance costs are lower than those of available market solutions - the scaling of these systems could result in cost savings across the sector.

- **Process efficiency savings are achieved across councils.** Similarly, if the outputs (i.e., software, data processes, or standards) result in increased process efficiencies, implementing these solutions across councils would result in time and cost savings across the sector.

- **Better outcomes for users are achieved across councils.** Finally, all developed outputs are expected to result in providing a better experience for citizens and/or council staff. The way in which this is achieved will vary depending on the specific processes or services the new developed output is trying to improve. If solutions are adopted across councils, these benefits are also expected to accumulate across the sector.

4.3.21. **Impact.** If the intended long term outcomes are realised, this is expected to lead to the following impacts across the local government sector: (1) effective development of new and secure digital systems and assets, (2) reduced cost and improved efficiency in delivery of essential local government services, (3) increasing competition among existing suppliers, and introducing alternatives to existing solutions (something broadly captured by the Fund's ambition to 'fix the market'), (4) share new digital and cyber systems and assets widely and improve collaborative ways of working, and (5) strengthen the overall digital maturity of councils.

## Discussion

4.3.22. In this section we critically assess some of the assumptions that underpin the Local Digital Fund's Theory of Change. Additionally, we consider some unintended consequences, acknowledging and exploring potential outcomes that may arise unexpectedly from the intervention and which may not have been considered in the policy design.

### Assumptions

4.3.23. **Scalability.** The intervention was designed to incentivise councils to work collaboratively in developing digital solutions that are applicable across the whole local government sector. However, projects are developed by a consortium of councils which might not necessarily be representative of the entire council sector when it comes to both the problems they are trying to tackle, and the adequacy of the developed solution. Furthermore, the variety of software systems across councils means that even if the problems were shared, and the solutions were applicable across the sector, there could be technical constraints (for example, in terms of integration, data migration), and contractual barriers (for example, legacy contracts) that prevent these solutions from being applied in the short to medium term.

4.3.24. The Fund was created based on the acknowledgment that councils typically tackle challenges in silos, resulting in inequalities and fragmentation across the local government digital infrastructure. It can be argued that this exact context could limit the scalability of the solutions being developed through funded projects, which would in turn limit the impact and effectiveness of the Fund.

4.3.25. **Scale.** One of the main aims of the intervention is to improve the quality of available local government software solutions in the market, allowing councils to move away from legacy technology. However, it is assumed that small scale, council-led projects, can directly lead to the development of new core council systems. Although the funding could allow councils to build software add-ons that improve the functionality of core council systems, it is likely not enough - in most cases - to develop entirely new systems. If these projects are scaled across the sector, the market might respond by adopting some of the new developed functionality. However, the probability of the interventions' projects directly leading to a complete replacement of legacy systems is arguably low. Its activities may, however, put pressure on existing software product markets to

contribute to this happening over time, which is arguably a more reasonable expectation.

4.3.26. **Sustainability.** The intervention provides support for the development of cross-council solutions but, apart from some aspects of the Continuous Funding Model round, it generally does not provide support for ongoing maintenance and updating. If the intervention's assumption that councils need incentives to develop cross-council solutions is correct, then this could also be true for the maintenance and updating of developed solutions. Not providing any support in this respect could limit the sustainability of the solutions developed, which would in turn limit the potential impact of the intervention. This funding model may also limit the range of councils' project applications to those that consider themselves to be feasible in the long term independent of DLUHC funding.

4.3.27. **Contagion effect.** The intervention expects an increase in digital transformation projects and agile skills application across the council sector because of the intervention. Considering that only a limited number of council staff members participate in project delivery, it could be argued that the extent to which this will result in council-wide impact is limited. Furthermore, our scoping activities have shown that in many cases funded projects are led by individuals who do not have clearly have direct impact on council decisions around technology and data, which can further limit the potential for contagion effect across the council (see Abrahamson & Rosenkopf 1997; Burt, 1987; or Young, 2009 for exemplary illustrations of behavioural contagion and innovation diffusion).

### Unintended consequences

4.3.28. **Funding duplication.** The funding of several small- scale projects across councils could lead to potential project duplication across funding rounds. Duplication in this sense refers to projects which are aiming to achieve a similar outcome, or where the projects are otherwise highly similar. Duplication is not always a negative characteristic of a fund: there can be reasonable instances where it makes sense to fund a similar project multiple times. This could be, for example, if the first project failed to yield satisfactory results or learnings, and further exploration is required. Or it could be that funding a similar project in 2 different council contexts may yield additional benefits. However, duplication of course can be a negative characteristic, and in many cases may represent an inefficient allocation of resources.

4.3.29. **Fragmentation of local government software infrastructure.** Similarly, funding multiple small-scale projects could result in the development of isolated solutions that are not necessarily interoperable. The likelihood of this happening increases if we consider that all resulting software solutions must be made available with an open-source licence. Open licences often allow others to use, modify, and distribute solutions. This poses the risk of code fragmentation, where different councils create variations of the software that are not necessarily compatible with each other.

4.3.30. **Funding distributed across digitally mature councils.** As participation in the Local Digital Fund has been voluntary, this may have appealed to councils who we already engaged in digital transformation or could facilitate the projects. For example, that could include councils that already have a digital or data team, or that have clear ambitions for digital transformation laid out in a digital strategy. This is not necessarily detrimental, as it can lead to increased motivation and agency, as well as more capability to develop and implement solutions. However, it can also lead to funding being concentrated in a group of councils and solutions not necessarily being applicable across the local government sector, limiting the reach and potential impact of the intervention.

4.3.31. **Over reliance on delivery partners.** Most of the councils that participated in the Fund procured the services of a delivery partner to support (and often lead) project activities. This is done due to capacity limitations, as well as the fact that projects often require specific skills not currently available within the councils. While the Fund did not discourage this practice, having delivery partners lead most of the work can result in unintended negative consequences. For example, it can limit the extent to which the Fund results in council staff developing digital skills. It can also pose a problem to the sustainability of developed outputs if, for example, delivery partners are the only ones that know how to edit the features of a developed output.

4.3.32. **Increased costs for participating councils**. Although the Fund aimed to generate efficiencies through the development of new technologies, in certain cases participating councils may have incurred greater costs. We identify 2 possible reasons:

- **Council investment in digital skills training increases.** If project teams successfully acquire and share digital delivery skills across councils, this would result in a shift towards new ways of working across the council. This might be expected to lead to an increase in spending on digital training, as

councils recognise potential skills gaps across staff.

- **Council investment in IT systems increases.** While certain solutions arising from the Local Digital Fund may result in cost savings, primarily attributed to enhancements in process efficiency, there are instances where councils may need to make higher investments to acquire and integrate these developed solutions. This scenario can occur, for example, when a solution is designed to digitise a currently manual process or enhance the functionality of an existing core council system.

### External dependencies

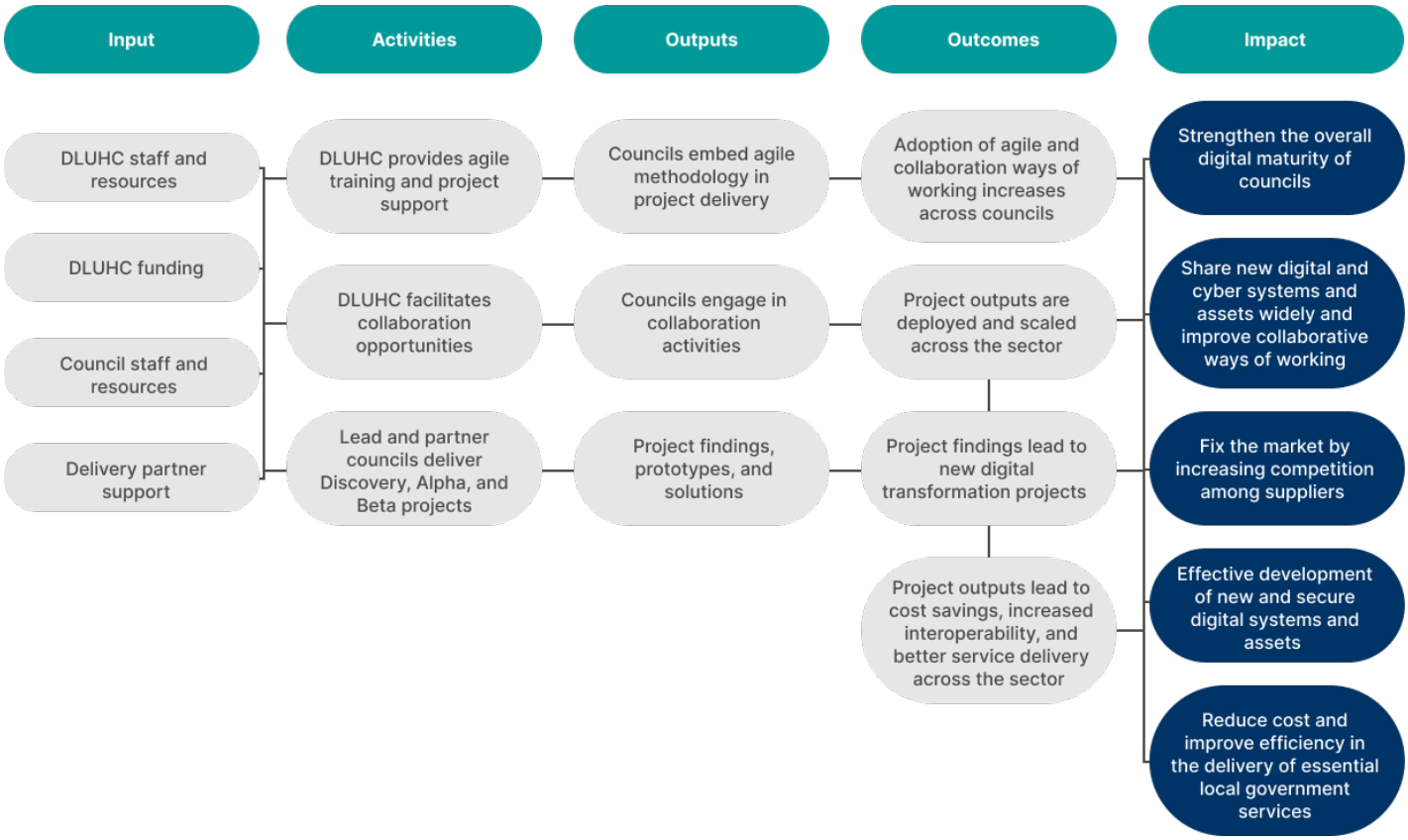
4.3.33. External dependencies associated with the Local Digital Fund workstream closely align with those identified for the overall Local Digital programme. Crucial factors, such as council leadership and available funding, play a pivotal role in determining the progression of projects through different phases and their successful maintenance and scalability post-funding.

4.3.34. Additionally, the existing digital infrastructure of councils, coupled with supplier flexibility, are key factors that will determine workstream impact. For instance, the capability of a council to extract data from current systems or integrate a new solution with existing systems can significantly impact the development and implementation of solutions. Lastly, the extent to which council teams develop agile skills could be supported by the outputs of the Training workstream. While teams are expected to hone these skills through project delivery based on existing agile guidance, their active participation in the Agile Training provided through the Training workstream also plays a role in skill development.

## Local Digital Fund logic model

4.3.35. Figure 2 illustrates the abbreviated version of the Local Digital Fund Theory of Change outlined in this section. Arrows are used to indicate causal relationships. The Theory of Change flows from input over activities, outputs, short-term outcomes, intermediate outcomes, and long-term outcomes to the workstream's impact. The extended version can be found in the appendix.

**Figure 2. Local Digital Fund visual logic model (abbreviated version).**



## 4.4. Future Councils

### Workstream overview

4.4.1. The Future Councils workstream was created with the goal to “create the conditions for modern, resilient councils”. That is, to create the necessary conditions for councils to adopt modern digital practices, systems, and ways of working, while at the same time improving their resilience against different cyber threats. To achieve this, Future Councils first aims to understand the common blockers and challenges that prevent a council from becoming more modern and resilient, and then to identify potential enablers or interventions. Gathering a holistic view of the blockers and enablers of digital programmes allows for the development of more targeted support and funding interventions that will subsequently have a higher chance of successfully fostering the digital transformation of the local public sector.

4.4.2. To execute this vision, Future Councils began with a pilot phase. Eight councils were chosen through an application process and awarded a direct grant of £750,000 each to address previously identified challenges at the digital transformation frontier. The pilot phase of the workstream started in April 2023 running for 6 months until November 2023. As part of the pilot, the selected councils were tasked to consider the 3 common challenges Local Digital identified through its work and conversations with councils across England. These are:

- How to influence the organisation-wide factors (such as internal processes, leadership, and governance) that can unblock change.
- How to make digital and cyber improvements across the whole organisation, rather than just in one team or area.
- How to reform services, including the big, critical services, which are riskier and harder to change.

### Theory of Change

4.4.3. **Inputs.** Councils that participated in the pilot of the Future Councils programme received £750,000 in direct grant funding per council from DLUHC. Other inputs include council staff and resources, DLUHC support on narrowing the focus of a council’s efforts, and the resources of delivery partners contracted by DLUHC to

identify, prioritise, and tackle systemic digital and cyber challenges.

4.4.4. **Activities.** Over the course of the pilot, the chosen councils worked with a delivery partner to define problem statements specific to their organisations. The delivery partner then provided support to each council in prioritising one local challenge, measuring its impact and devising an action plan to address it.

4.4.5. Concurrently, an assessment of the local challenges was conducted with councils to identify common blockers or systemic challenges to digital and cyber change across the local government sector. These were validated with the pilot cohort in collaborative workshops and to ensure the broader applicability of these findings, the delivery partner facilitated workshops with councils not involved in the pilot. This process aimed to test whether the identified blockers are relevant to the wider sector beyond the pilot participants.

4.4.6. Additionally, pilot councils are expected to engage in the same activities as those identified as part of the Cyber Assessment Framework (CAF) workstream.

4.4.7. **Outputs.** These activities are expected to result in the following outputs:

- **List of local challenges faced by councils.** This list includes the compilation of problem statements identified by pilot councils.

- **Action plans to tackle local challenges.** Councils are required to select one of the identified problem statements as a priority and formulate an action plan to address it.

- **List of prioritised cross-council systemic blockers.** Identification of systemic challenges underpinning local challenges that affect the entire local government sector.

- **Cost of identified systemic blockers.** councils are asked to estimate the current cost to the council of the identified systemic challenge. Considered costs fall into 3 categories: (1) inefficiencies in business-as-usual (BAU) and service improvement work, (2) failure demand, and (3) poor resident outcomes. A set of costed challenges using this framework is a key output of the pilot.

- **CAF progress updates.** Councils are expected to demonstrate progress against the completion of their CAF assessment across objectives A, B, C, and D (see the CAF Theory of Change section for details).

4.4.8. **Outcomes**. The outputs of the Future Councils workstream are expected to lead to short, intermediate, and long-term outcomes, detailed next.

4.4.9. **Short-term outcomes**. These outcomes are expected to be achieved by the end of the pilot phase, following the delivery of the key outputs. The intervention is expected to increase understanding - across both DLUHC and pilot councils - of sector- and organisation-wide factors or challenges that can block digital and cyber change. DLUHC is expected to use this information to improve the conditions in which policymakers design interventions to unblock digital and cyber change. Separately, the end of the pilot phase will see councils making progress towards completion of CAF and development of a standardised local government version of this assessment framework.

4.4.10. **Intermediate outcomes**. At this stage, councils are expected to have successfully implemented their action plans to tackle prioritised blockers. This is expected to result in the following outcomes:

- **Reduction of costs associated with systemic challenges within pilot councils.** Successful implementation of action plans should lead councils to realising savings across the 3 cost areas baselined: (1) inefficiencies in BAU and service improvement work, (2) failure demand, and (3) poor resident outcomes.

- **Broad council consensus and shared language on the organisation-wide factors that can unblock digital and cyber change.** Council collaboration is another key feature of the programme's approach. As such councils that realise the benefits of addressing blockers are expected to share their experience and success with their peers. This should eventually create broad council consensus and shared language on the organisation-wide factors that are believed to unblock digital and cyber change. The experience of pilot councils in implementing their action plans should result in 'replicable pathways' being implemented across the sector.

- **New interventions and policies are designed to tackle identified systemic digital and cyber challenges.** The evidence gathered through pilot activities is expected to contribute to the identification and prioritisation of

potential interventions that would address systemic challenges. Depending on the challenges and the evidence gathered across pilot councils, these could include both new funding programmes, policy interventions, support initiatives across the local government sector, and council-individual initiatives.

4.4.11. Finally, because of the CAF activities also undertaken by pilot councils, pilot councils are expected to achieve the intermediate outcomes associated with the CAF workstream.

4.4.12. **Long-term outcomes.** The successful implementation of the solutions or pathways identified by pilot councils is expected to lead to these pathways being replicated across the sector. This is expected to be facilitated partially through continuous council collaboration in forums that share the insights gained from Future Councils. It is therefore anticipated that the positive outcomes observed in these pilot councils will eventually extend to the broader local government sector over the long term. This includes reduction of costs associated with systemic challenges across the sector.

4.4.13. After the conclusion of the Future Councils pilot in November 2023, the insights gained may shape a subsequent iteration of the intervention in 2024. That phase would maintain the overarching aim of aiding councils in becoming more modern and resilient, but the specific intervention to achieve this aim are undetermined at the point of drafting this report. For our purposes, we have provisionally defined long-term outcomes that are associated with the overall aim of driving more modern and resilient councils:

- **Modern ways of working.** As councils become more digitally mature, they are expected to adopt ways of working that favour digital transformation. This includes following GDS best practice and implementing agile delivery lifecycle and methodologies.

- **Modern and resilient procurement approaches.** Similarly, increased digital capabilities and understanding of technology systems across councils, is expected to lead to more modern technology approaches being adopted. This includes use of central government technology procurement frameworks, such as Digital Outcomes and Specialists (DOS) or G-Cloud and ensuring that all procured systems meet recognised cyber security standards.

- **Modern and resilient technology systems.** The improvement of technology procurement approaches, as well as the increase in digital transformation

projects, is expected to lead councils to the acquisition of more modern and secure software solutions.

- **Modern and resilient data sharing approaches.** As councils' cyber and digital maturity increases, this will impact their data governance practices. This should include a more mature approach to data usage and sharing, the adoption of cloud hosting solutions for increased data protection and having a robust backup and recovery process in place.

- **Overall digital and cyber maturity increases.** An increase in overall digital and cyber maturity should be reflected in changes across the other 4 outcomes. This may result in councils publishing and regularly updating digital and cyber strategies, having designated digital and cyber leaders, and increasing investment in staff cyber and digital skills training.

4.4.14. Although these outcomes are not specific to the areas of focus that might be prioritised and addressed as a result of the Future Councils pilot phase, generally the 2024 intervention is expected to contribute to the same goal of making a 'modern and resilient' council sector. This may include changes across the listed dimensions, and they will require review based on the decisions made on the 2024 Future Councils intervention.

4.4.15. **Impact.** The action plans designed by the pilot phase attempt to deeply understand the mechanisms through which digital and cyber transformation can be achieved by the council sector. The impact of achieving this understanding will provide insights into how to support councils more effectively on their path to becoming more modern and resilient.

## Discussion

4.4.16. In this section we critically assess some of the assumptions that underpin the Future Councils Theory of Change. Additionally, we consider some unintended consequences, acknowledging and exploring potential outcomes that may arise unexpectedly from the intervention and which may not have been considered in the policy design.

### Assumptions

4.4.17. **Relevance of participating council-developed solutions to other councils.** Participating in Future Councils distinguishes councils from their non-participant counterparts in ways that are potentially critical. Councils that engage with the

pilot may have characteristics, such as motivation for digital transformation, that both explain their propensity to participate and affect outcomes. The Future Councils application process may, therefore, create the conditions for survivorship bias affecting the long-term impact of the Future Councils programme.

4.4.18. Even if the pilot results in the creation of effective interventions for identifiable transformation challenges that are replicable across many councils, irrespective of their engagement with the pilot, survivorship bias precludes us from complete confidence that the identified challenges apply across the council sector. In other words, if there are blockers that are prevalent in the councils that did not apply - or participate in the validation workshops - the extent to which they are 'systemic' will be questionable. The ramification of creating effective interventions tailored to a selected population's context can mean that the conditions for modernisation and resilience are improved for some but not for others.

4.4.19. **Replicability.** Similarly, even if the blockers identified are common across all councils, for the identified pathways to work across the sector, the methods identified should be universally applicable. Considering the variation across council systems and processes, unless these pathways are tested with a representative sample of councils, their relevance and applicability could be questioned. Furthermore, even if the pathways themselves prove to be replicable across the sector, their practical implementation could run into barriers related to existing systems (for example, integration challenges, contractual restrictions).

4.4.20. **Transformation scope.** The intervention assumes that through tackling a limited set of identified blockers to digital and cyber transformation, councils will then become more digital and cyber mature. Although in comparison to the Local Digital Fund, the blockers do refer to structural challenges rather than specific service area problems, it is unclear whether the scale of the intervention can result in council- and sector-wide change.

4.4.21. Overall, identifying core barriers to digital transformation in local authorities is a well-founded approach. In analysing the success of a push for digital transformation in 11 Canadian local authorities, Pittaway and Montazemi (2020) critically examine the policy of imparting 'know-how' to local leaders as an intervention meant to bolster modernisation. While accepting the need for this manner of 'up-skilling' the key knowledge gap between policy makers and local

authorities they identify is ‘what know-how’ can be pivotal for a transformation process.

4.4.22. The grounded approach taken by DLUHC’s delivery partners in framing the councils' challenges and suggesting potential interventions may resolve the knowledge gap identified by Pittaway and Montazemi (2020). However, given the assumptions discussed in this section, factors such as the lack of representation across engaged councils, or the current fragmentation of council systems and processes, could limit the replicability of identified pathways to digital transformation.

### Unintended consequences

4.4.23. **Funding distributed across digitally mature councils.** Similarly to the Local Digital Fund, as participation in Future Councils is voluntary, this may appeal to councils who are already digitally mature. Although this can lead to increased motivation to participate in workstream activities, it can also limit the extent to which initiatives and solutions developed by participating councils are applicable across the whole local government sector.

4.4.24. **Ineffective distribution of funding within the council.** Councils participating in the Future Councils workstream have substantial independence in utilising the awarded funding within their jurisdictions as they see fit. While they receive support and guidance from the workstream team, they have the freedom to choose activities that enhance their digital and cyber maturity and decide how to allocate the funding accordingly. This autonomy is not inherently negative, as councils are presumed to be best suited to address these challenges. However, it can also lead to inefficient distribution of funding if not managed effectively.

4.4.25. **Lack of engagement in cross-sector collaboration activities.** Participation in cross-sector activities organised after the completion of the Future Councils' pilot is optional for participating councils. However, this voluntary approach may lead to reduced engagement, potentially limiting the replication of solutions or pathways across the sector.

### External dependencies

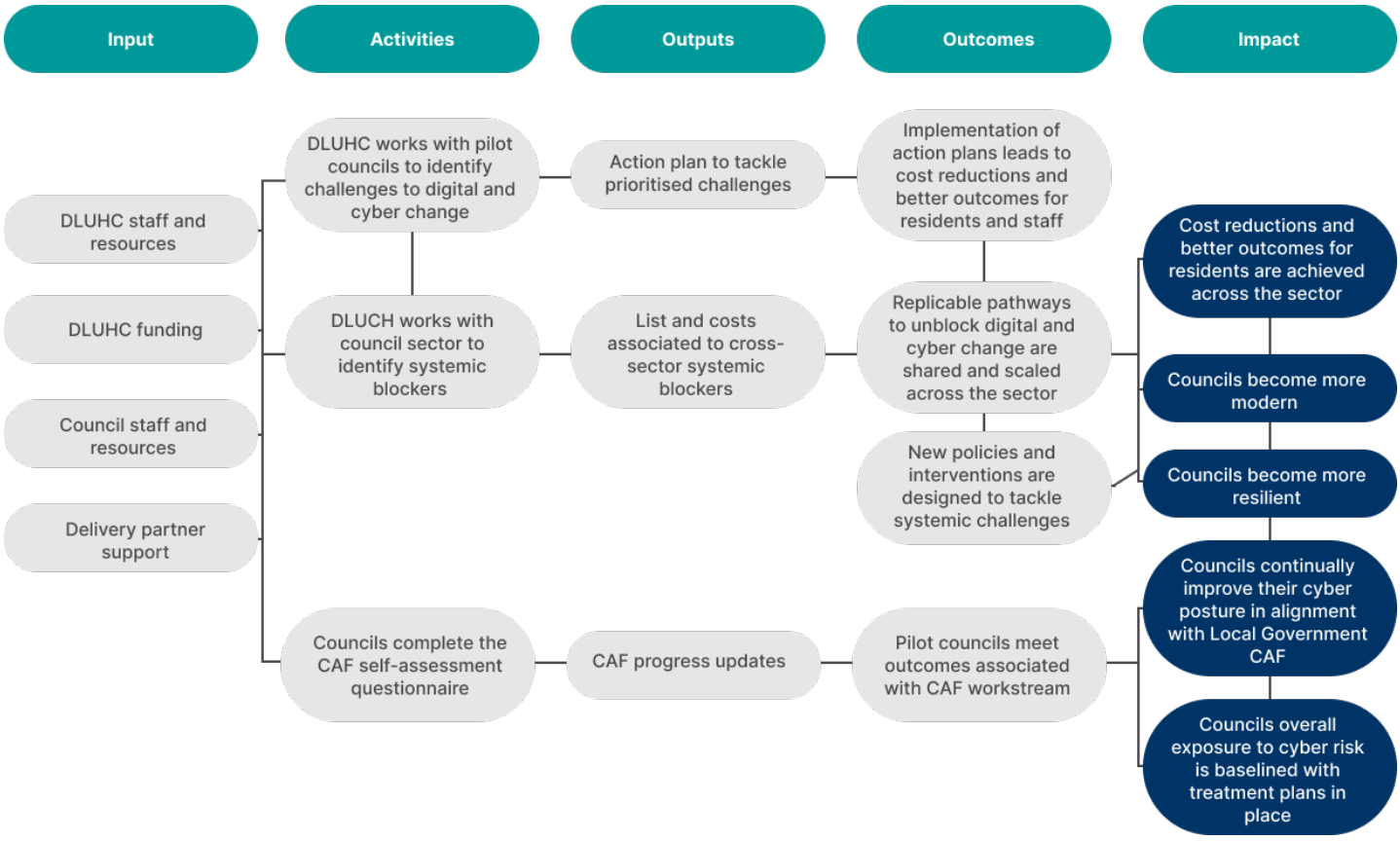
4.4.26. External dependencies related to the Future Councils workstream closely mirror those identified for the broader Local Digital programme. Similar to the Local Digital Fund, the effectiveness of developing, implementing, and sustaining solutions or pathways initiated during the pilot is heavily influenced by council

leadership, funding availability, and existing digital infrastructure. Separately, the achievement of cyber outcomes is also influenced by the implementation and effectiveness of the Cyber Assessment Framework workstream.

## Future Councils logic model

4.4.27. Figure 3 illustrates the abbreviated version of the Future Councils Theory of Change outlined in this section. Arrows are used to indicate causal relationships. The Theory of Change flows from input over activities, outputs, short-term outcomes, intermediate outcomes, and long-term outcomes to the workstream's impact. The extended version can be found in the appendix.

**Figure 3. Future Councils visual logic model (abbreviated version).**



## 4.5. Cyber Support

### Workstream overview

4.5.1. The Cyber Support workstream was introduced in 2020, in the context of councils transitioning to new online delivery models, and broader operational challenges relating to the Covid-19 pandemic. It was introduced shortly after 2 high-profile and significantly disruptive malware and ransomware attacks, in Hackney and Redcar and Cleveland councils. This workstream seeks to avoid further disruptive cyber security breaches in English councils by aiming to identify vulnerabilities in councils' prevention and recovery plans to malware and ransomware attacks, and to develop and execute tailored treatment plans.

4.5.2. DLUHC identified critical cyber risks in councils and prioritised support to the councils with the highest risk of being affected by malware attacks. This judgement was made based on results of the Mitigating Malware and Ransomware (MMR) survey. The MMR survey was conducted by DLUHC in 2020-2022 and was completed by 100% of local authorities in England. The Cyber Support workstream has, to date, awarded £19.95 million to support a total of 192 councils in improving their cyber resilience. Funding was rolled out in 4 cohorts, prioritising those with the highest judged risk (based on the MMR survey):

- Cohort A: December 2020 - March 2021
- Cohort B: November 2021 - March 2022
- Cohort C: December 2020 - March 2021
- Cohort D: October 2022 - March 2023

4.5.3. Steps towards identifying and remediating key risks included developing Cyber Treatment Plans for at-risk councils, establishing monthly cyber clinics, and developing incident response plans whilst providing cyber advisory support during incidents. Cohort C was initially onboarded into a programme like Cyber Support by the Cabinet Office between December 2020 - March 2021. This included the creation of a security improvement plan but did not include funding to the councils. Cohort C has since been brought into the DLUHC programme and funded alongside Cohorts B and D. The key emphasis of this funding has been to improve councils' resilience to cyber incidents and reduce the disruption to services by strengthening their cyber security controls and ability to recover from malware and ransomware attacks. Its overall aim was therefore not

organisation-wide cyber transformation, but to address specific malware and ransomware risks, prioritising those that were deemed most critical.

4.5.4. Cyber Treatment Plans vary based on the risks identified for each council. These include high-priority interventions such as implementing multi-factor authentication, introducing backup processes, and developing and testing incident response plans.

## Theory of Change

4.5.5. The Theory of Change for the Cyber Support workstream reflects the outcomes we have detailed, with a particular focus on helping councils to both prevent and recover from actual and potential malware and ransomware threats. This is explained next, in the same format as other workstream Theories of Change.

4.5.6. **Inputs.** The delivery of the Cyber Support workstream involves a combination of the following: (1) Cyber Support funding from DLUHC, (2) DLUHC-contracted cyber consultancy advisory and support, (3) DLUHC staff and resources, and (4) participating council staff and resources.

4.5.7. **Activities.** Steps towards identifying and remediating key cyber risks for mitigating malware and ransomware within the Cyber Support workstream included: (1) developing Cyber Treatment Plans for high-risk councils, (2) conducting technical workshops and cyber clinics with councils, and (3) cyber consultant support and advice to councils in the development of incident response plans and during cyber-attack incidents.

4.5.8. The MMR survey was analysed by DLUHC to identify the councils considered to be at a high-risk of a malware/ransomware attack and prioritise them for the funding cohorts. For this purpose, DLUHC summarised the responses to the survey questions in an ‘MMR score’. The MMR score is a weighted combination of specific questions that capture councils’ responses in areas that were considered high priority. For security reasons, we do not reproduce the questions or priority areas here. DLUHC also included several additional factors in the MMR score, covering both high-level council attributes (such as resident population) and subjective judgements of prioritisation that should be afforded to councils (such as whether international events were expected in their jurisdictions).

4.5.9. **Outputs.** The activities outlined are expected to result in the following outputs:

- **Cyber Treatment Plans.** Councils are only eligible for Cyber Support funding based on the condition that they had an agreed treatment plan in place. Based on the responses and scores of the MMR survey, bespoke treatment plans were designed by DLUHC. The Cyber Treatment Plans mandate a set of actions to mitigate the risk and impact of a malware or ransomware attack. Councils are expected to execute this plan within a period of 12 months.

- **Incident Response Plans.** The Cyber Incident Response Planning Survey was completed by 124 councils and served as a baseline for how many councils have a cyber incident response plan in place and what type of support they needed for incident response planning. Where gaps are identified, remediation actions are included as part of the Cyber Treatment Plans. The intention is that councils will have an incident response plan that has been communicated and tested for effectiveness to improve preparedness, and thus mitigate the impact, when responding to and managing a malware or ransomware attack.

4.5.10. As well as these 2 plans, the workstream activities also result in the delivery of consultancy and advisory support sessions with councils. This includes initial workshops with councils to support the development of the Cyber Treatment Plans, quarterly sessions to review progress, and cyber clinics to discuss cyber security insights and best practices.

4.5.11. **Outcomes.** The outputs of the Cyber Support workstream are expected to lead to intermediate and long-term outcomes.

4.5.12. **Intermediate outcomes.** The Cyber Support funding identifies key risks and provides councils with a Cyber Treatment Plan to mitigate the impact of a malware or ransomware attack. Whilst identification of key risks does not itself reduce the impact of a malware or ransomware attack nor improve a council's cyber resilience, the baselining of councils' incident response capabilities in combination with cyber consultant advisory and support should, at a minimum, improve their preparedness for managing a cyber security incident.

4.5.13. **Long-term outcomes.** The following are the expected long-term outcomes:

- **Councils implement their Cyber Treatment Plan and reduce their malware and ransomware risk.** Implementation of security safeguards such as multi-factor authentication, resilient and immutable backups and incident response plans will reduce the impact of a malware or ransomware attack and reduce service disruption.

- **Councils improve their malware and ransomware attack response and recovery processes.** Councils will have an implemented Incident Response Plan for responding to and managing a malware or ransomware attack that has been tested to ensure its effectiveness. Outlining specific steps to be taken enables councils to respond swiftly and effectively, reducing the potential damage and facilitating a faster recovery process, thus reducing its overall impact. Support from DLUHC cyber consultants during an incident in combination with post-incident lessons learnt will also reduce the likelihood of incident recurrence.

- **Councils improve their overall cyber resilience and reduce risk.** The combination of security safeguards will improve the overall cyber resilience of councils and subsequently reduce the risk of a malware or ransomware attack from occurring.

4.5.14. **Impact.** This workstream is expected to bring about a substantial reduction in the impact and cost of malware or ransomware attacks, leading to significantly improved preparedness for future incidents. Consequently, councils may realise cost savings by proactively reducing the risk and impact of future breaches.

## Discussion

4.5.15. In this section, we critically assess the main assumptions that underpin the Cyber Support Theory of Change. We also consider some unintended consequences, acknowledging and exploring potential outcomes that may arise unexpectedly from the intervention and which may not have been considered in the policy design.

### Assumptions

4.5.16. **Long-term proactivity on the part of councils.** This intervention allocates funding to councils for the implementation of actions outlined in a Cyber Treatment Plan, and the impacts require these actions to be met. This assumes that councils will continue investing to sustain the changes identified in the Plans once DLUHC funding ends. The extent to which councils do this is likely to vary

across councils based on their resources and priorities, potentially undermining the intervention's overall impact.

4.5.17. **Treatment plan vulnerability.** The intervention involves the creation of Cyber Treatment Plans for councils to execute over a 12-month period. A potential risk arises if these plans are not periodically reviewed during implementation, as various factors related to the risks faced by councils may evolve. In the span of 12 months, both the primary cyber risks and the council's position may change. Failing to conduct regular reviews of the Cyber Treatment Plans undermines their efficacy in mitigating cyber risks, as the plans may become outdated and fail to address the evolving threat landscape.

### Unintended consequences

4.5.18. **Promote organisational buy-in for cyber**. Improving overall cyber resilience requires adequate resources to implement robust security measures beyond those that address malware and ransomware risk. The consistent development of Cyber Treatment Plans and Incident Response Plans may engender a greater level of motivation to act amongst council leadership. Strong leadership is fundamental to aligning cyber security with business objectives and ensuring that councils remain resilient against evolving cyber threats. Hence an additional benefit that may accrue from this workstream is wider organisational buy-in for cyber security, both among leadership and wider council staff.

4.5.19. **Improved collaboration with other councils**. Similarly, an additional potential benefit is improved collaboration between councils leading to more collective action to tackle emerging cyber threats, especially where there have been cohort-based approaches to programme delivery and funding.

4.5.20. **De-prioritisation of cyber actions not associated with developed Cyber Treatment Plans**. However, given finite resources it is possible that activities or measures outside the scope of the Cyber Treatment Plans and Incident Response Plans may be given lower priority or attention This would negatively impact the drive towards greater overall cyber security.

### External dependencies

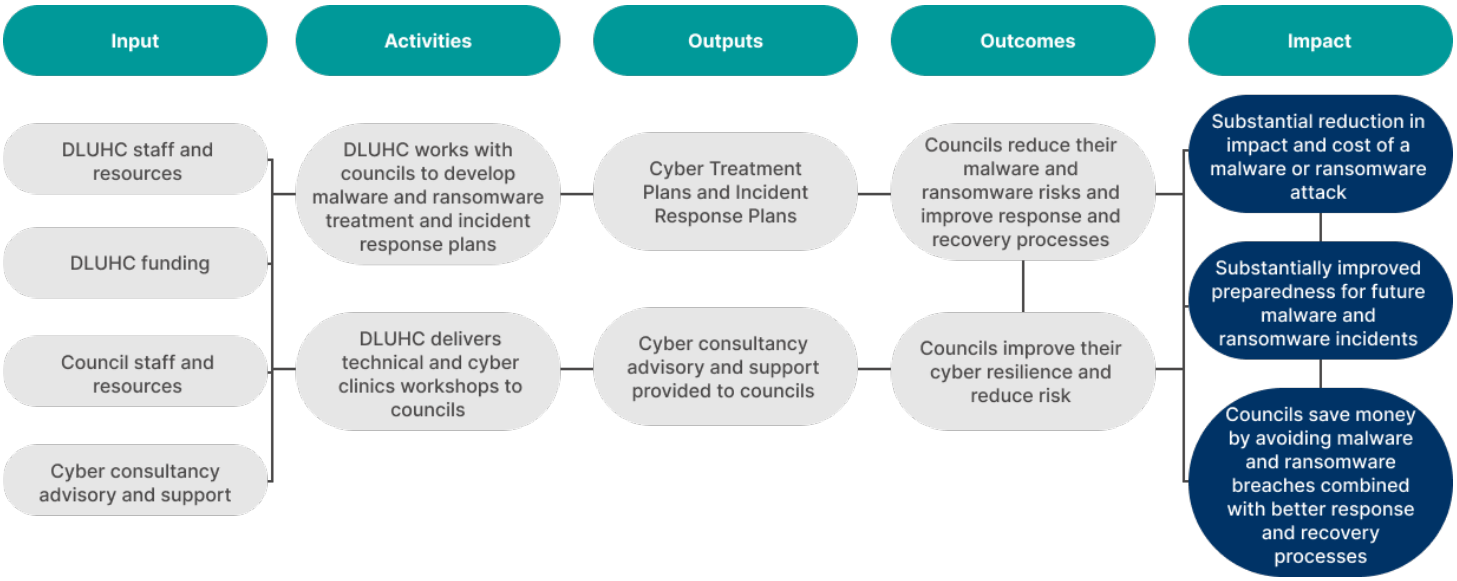
4.5.21. External dependencies linked to the Cyber Support workstream align with those identified for the broader Local Digital programme. Specifically, the efficacy of activities within this workstream is contingent on the existing digital infrastructure and any alterations made to it. For instance, adjustments to the infrastructure

post the development of the Cyber Treatment Plan may render some plan actions irrelevant or no longer a priority when assessing the new IT estate. Additionally, reliance on existing suppliers is crucial, as their responsiveness to requests from council teams based on the Cyber Treatment Plans determines the implementation of changes and consequently influences the impact of workstream activities. Lastly, the long-term impact of the workstream is tied to the commitment of council leadership to sustain cyber changes beyond the workstream, allocating the necessary budget and resources for ongoing maintenance.

## Cyber Support logic model

4.5.22. Figure 4 illustrates the abbreviated version of the Cyber Support Theory of Change outlined in this section. Arrows are used to indicate causal relationships. The Theory of Change flows from input over activities, outputs, intermediate outcomes, and long-term outcomes to the workstream's impact statements. The extended version can be found in the appendix.

**Figure 4. Cyber Support visual logic model (abbreviated version).**



## 4.6. Cyber Assessment Framework

### Workstream overview

4.6.1. The UK's technical authority for cyber security, the National Cyber Security Centre (NCSC), developed the Cyber Assessment Framework (CAF) to support the UK's implementation of the European Union's Network and Information Systems (NIS) Directive in 2018. The Cyber Assessment Framework provides a systematic and comprehensive approach to assessing the extent to which cyber risks to essential functions are being managed by the organisation responsible. It is either assessed by an organisation itself or an external entity and is guided by the NCSC's cyber resilience and security principles. Today, a significant number of UK providers of essential services are using the framework to help them improve cyber security.

4.6.2. Considering this, the National Cyber Strategy 2022-2023 and the Government Cyber Security Strategy 2025-2030 set out plans to adopt the CAF as the assurance framework for government, providing a systematic and comprehensive approach to assessing the extent to which cyber risks to essential functions are being managed. The framework assesses an organisation's management of risks in 4 areas, called the CAF Objectives:

- Objective A: managing cyber risk
- Objective B: protecting against cyber attacks
- Objective C: detecting cyber security events
- Objective D: minimising the impact of cyber security incidents

4.6.3. DLUHC introduced the CAF workstream to the Local Digital programme in 2022 as a common measurement standard to enable councils to self-assess their cyber security maturity. By assessing their individual cyber maturity across 4 areas, councils can identify key gaps in their cyber security posture and prioritise areas of high risk. This allows them to create accurate remediation plans and proactively work towards a continuous improvement of their cyber risk profile. In this way, the workstream's overall objectives are (1) to give councils a tool to self-assess and manage their own cyber security, and (2) to give DLUHC a view of the cyber posture of the local government sector.

4.6.4. The CAF workstream currently consists of 3 implementation pilots to assess and enhance the use of the CAF by local authorities. The initial pilot, involving 10

councils, commenced in September 2022. Subsequently, the second pilot involved 8 councils selected as part of the Future Councils workstream in 2023. The final pilot is scheduled for 2024 and will include 20 additional councils.

4.6.5. Key findings from the first pilot revealed a consensus among councils that the CAF is valuable for identifying opportunities to enhance cyber security and offering guidance on prioritising areas for improvement. Council IT leads recognised potential enhancements through third-party audits. However, the first pilot also highlighted that councils faced challenges in applying the assessment in their day-to-day operations and lacked confidence in doing so, necessitating guidance and support from DLUHC. The second and third pilots aim to build on these findings and determine the most effective approach for rolling out the CAF and ensuring it is consistently adopted across the entire local government sector in England.

4.6.6. The implementation timeline for the CAF across the sector is currently undefined, and the specific design of that comprehensive intervention remains undetermined. The timeline and design hinge largely on the outcomes of the ongoing pilots. It is anticipated that the rollout may extend beyond the envisioned evaluation timelines. Consequently, this evaluation will concentrate on assessing the 3 intervention pilots and help to inform the development of a potential future large-scale intervention.

## Theory of Change

4.6.7. The Theory of Change outlined next is constructed around the 3 pilot interventions and does not encompass the undefined large-scale rollout of the CAF across the sector.

4.6.8. **Inputs.** DLUHC resources are the primary inputs to the pilots, including staff, funding, and planning resources. In the initial pilot phase, 10 councils received £20,000 each to support with CAF activities. In the subsequent pilot, funds distributed under the Future Councils programme were intended for the completion of CAF activities. Currently, no determinations have been reached concerning the funding allocation for the third pilot phase.

4.6.9. On the local authorities' side, council staff are required to engage with the CAF, particularly those with sufficient expertise in the cyber field.

4.6.10. **Activities.** DLUHC engages in various activities to deliver the workstream. Though the 3 pilots share a common goal, there are notable differences in the support provided by DLUHC for each. In the first pilot, councils completed the CAF self-assessment without individualised support from DLUHC, and councils' self-assessments were not validated by DLUHC. The second pilot involved DLUHC facilitating workshops, validating self-assessment results, and providing individual council support. The third pilot, being planned as of December 2023, aims to introduce a digital version of CAF with enhanced guidance.

4.6.11. The DLUHC support during the 3 pilots has been delivered by an IT services company commissioned by DLUHC. Activities common to all pilots are: (1) the completion of the CAF self-assessment questionnaire, and (2) the gathering of post-assessment feedback from councils to inform the eventual rollout of CAF across the sector.

4.6.12. **Outputs.** The activities result in 2 main outputs. The first is completed cyber assessments by the participating councils across the 4 objectives of the CAF. Second is a standardised local government CAF rollout approach, complete with accompanying guidance to assist councils in its implementation.

4.6.13. **Outcomes.** The outputs of the CAF assessment process led to intermediate and long-term outcomes.

4.6.14. **Intermediate outcomes** include outcomes that should be realised in the first weeks and months after the completion of DLUHC's CAF activities. These include:

- **Councils understand their current cyber risk posture.** Councils that have completed the self-assessment against CAF will have a baseline understanding of their cyber risk posture along with any key control gaps.

- **High-priority areas for cyber risk mitigation and improvements are identified.** Councils engaged in the CAF will recognise and identify high-priority areas for cyber risk mitigation and intervention. This will allow them to make informed decisions on which areas to improve, as well as an improved understanding on DLUHC's end.

- **DLUHC identifies local government guidance and support requirements for wider CAF adoption by the sector.** The feedback gathered from the 3 pilots is anticipated to contribute to the formulation of a comprehensive CAF

rollout strategy for the entire local government sector. This encompasses an understanding of the guidance and support needed by councils to ensure the success of the rollout.

4.6.15. **Long-term outcomes.** In alignment with the government's vision for public organisations to be cyber resilient to all known threats by 2030, the following are the expected long-term outcomes once councils have established adherence to CAF principles.

- **Councils develop plans to improve their cyber posture in the identified high-priority areas.** The increased awareness of areas prone to cyber risks as a result of completing the CAF self-assessment across pilot councils should ultimately lead to greater organisational buy-in as areas of improvement in councils' overall cyber security posture are identified. It is therefore likely that treatment plans are developed to remediate the identified gaps in councils' cyber posture as a result.

- **DLUHC develops a deeper understanding of council cyber needs and priorities.** The data from the CAF can be used to guide cyber policy and intervention decisions across the sector.

- **DLUHC is informed for a wider CAF rollout to the local government sector**. Based on the above 2 outcomes, DLUHC can define the relevance and scope of a CAF for consistent adoption across the local government sector. The strategic planning for a sector-wide launch of CAF, informed by insights from the 3 pilots, would aim for a sector-wide CAF rollout which would eventually place the responsibility for undertaking the CAF and managing councils' cyber security with councils. This initiative is expected to enhance understanding regarding how CAF should integrate with other existing cyber assessment frameworks.

4.6.16. The primary intended long-term outcome of the workstream is for the CAF to be widely adopted across the sector, although we expect this to be out of scope of the evaluation. However, we expect the evaluation to be able to uncover the underlying dynamics that may support this goal, such as the cyber security culture and awareness of councils, the level of appropriately skilled and available resources to manage cyber security, the initial enthusiasm of early adopters, as well as an expected long tail of councils that may need to be incentivised to complete the CAF.

4.6.17. **Impact.** The creation of a standardised framework will ensure there is a shared language and understanding of cyber security risks. An increased awareness and understanding of risks should engender a proactive culture in the sector that is more capable of adapting to emerging threats.

## Discussion

4.6.18. In this section, we critically assess the main assumptions that underpin the CAF Theory of Change. Additionally, we consider some unintended consequences, acknowledging and exploring potential outcomes that may arise unexpectedly from the intervention and which may not have been considered in the policy design.

### Assumptions

4.6.19. **The CAF, which is general, is readily applicable to the local government sector.** The first pilot did not verify participant responses. Therefore, the DLUHC research team did not conduct document reviews, nor the investigation of systems. In addition, DLUHC staff did not validate the information provided with key council staff outside of the IT team. This lack of triangulation means that key aspects important to councils, particularly the operational routines, may have been missed. If this were the case, the amendment of the CAF to better reflect local government particularities may need to be reworked.

4.6.20. **Willing adoption of CAF.** Although adopting the CAF is expected of councils, the self-assessment feature of the framework does not currently mandate enforcement nor regulation of its compliance. This could lead to compliance apathy, as end users might not feel compelled to fully participate, considering that there are no punitive measures nor tangible rewards attached to the programme. Depending on how many councils fail to participate in the CAF, this might seriously decrease the achievement of the workstream's main goal: understanding the overall cyber posture of the public sector.

4.6.21. **Councils can complete the CAF without intensive DLUHC support.** The increasing focus on cyber risk awareness, mitigation, and remediation of cyber threats will mean that councils and their IT leads will need to prioritise the engagement of appropriately skilled cyber security resources, to ensure the delivery of the requirements of the CAF. Given that the CAF is not yet a mandatory requirement it may not be strictly adhered to when factoring in existing resource constraints. Indeed, it is possible that additional spending

would be needed to improve cyber security aspects identified through completion of the CAF, such as increases in IT staff and cyber security specialists to ensure that the CAF objectives are met. A delicate balance would need to be struck between providing IT assets to ensure efficient delivery of public services, and engaging staff to ensure the protection of these IT and data assets.

### Unintended consequences

4.6.22. **Increase in council costs and resources dedicated to cyber security.** As noted, the completion of the CAF may lead to an increase in council costs and resources allocated to cyber security. As councils identify gaps in their cyber posture and formulate treatment plans, there might be a need to augment their current investment in cyber security to address these challenges.

4.6.23. **Reduction of costs and resources required to conduct CAF self-assessments across councils.** As awareness of councils' cyber risks improves, this might result in both DLUHC and councils ultimately having to devote fewer resources to complete cyber self-assessment activities. This potential cost reduction is not necessarily relative to a counterfactual of there being no local government CAF, but relative to the intensive level of DLUHC support provided to councils in completing CAF under the pilots. However, the future of cyber risks is inherently uncertain, as is the extent to which CAF assessments keep pace with them, so this unintended consequence is strictly tentative.

4.6.24. **Increased best practice through experience sharing and collaboration across councils.** The implementation of the CAF within a pilot programme, involving multiple councils, could encourage best practice sharing. The shared experience of simultaneous CAF self-assessment within a cohort might foster collaboration, enabling councils to exchange insights and effective strategies which ultimately contribute to improved sector-level readiness.

### External dependencies

4.6.25. Similar to previous workstreams, external dependencies associated with the CAF workstream align with those identified for the broader Local Digital programme. Key dependencies for this workstream are particularly tied to the capabilities and resources available to councils participating in the CAF pilots.

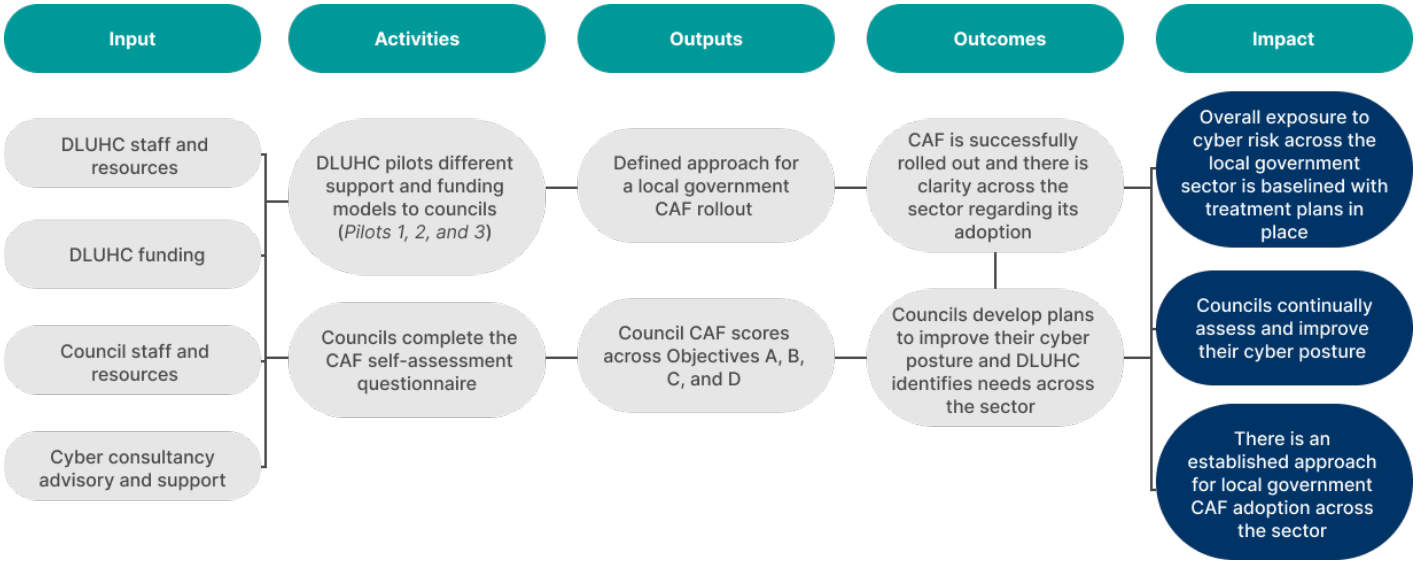
4.6.26. Although councils will have an improved awareness and understanding about their cyber security risks following their participation in the CAF, the workstream itself does not address such risks directly and therefore assumes that councils

will have the skills and resources to develop and implement effective treatment plans. The CAF pilot highlighted that there are limited skilled resources available to councils to assess and meet the requirements of CAF. Further, the pilot experiences suggest that this has been exacerbated by IT leads facing tight budgets and challenges in hiring and retaining cyber security staff. The extent to which councils can develop and implement effective treatment plans following the completion of CAF may therefore depend on councils' abilities to reconfigure existing resources, or on access to additional funding and support. The long-term impact of CAF in this regard is dependent on subsequent action on the part of both participating councils and other local government sector stakeholders.

## Cyber Assessment Framework logic model

4.6.27. Figure 5 illustrates the abbreviated version of the Cyber Assessment Framework Theory of Change outlined in this section. Arrows are used to indicate causal relationships. The Theory of Change flows from input over activities, outputs, intermediate outcomes, and long-term outcomes to the workstream's impact statements. The extended version can be found in the appendix.

**Figure 5. Cyber Assessment Framework visual logic model (abbreviated version).**



## 4.7. Training

### Workstream overview

4.7.1. Digital and agile ways of working have become a common standard across many industries due to a variety of benefits, such as improved project predictability or risk reduction. These potential benefits may also apply to the public sector. To better facilitate agile workflows and aid local authorities in designing and delivering digital services, DLUHC launched a number of training offers through the Local Digital programme. These are, in order of their conception:

- **Training Library.** DLUHC's Training Library is a directory of online resources available to support local authority staff in learning and developing their digital skills. Resources available include both free and paid-for training offered virtually by a variety of providers.

- **Agile Training.** Aimed at local government officers, the sessions offered by the Agile Training offer span 2 days. Their goal is to equip participants with an improved understanding of digital and agile ways of working, and ways to actively use these methods in the delivery of digital services. It is, as of December 2023, provided by an external supplier, NobleProg. Around 10-12 council officers attend approximately every 2 months.

- **Executive Education programme.** As the name suggests, the Executive Education programme is an offering for senior local government officers. It is intended to give participants the confidence and expertise needed to lead the digital transformation of public services. It was delivered in collaboration with the Amazon Web Services Institute and Socitm, with a total of approximately 250 officers attending and took the format of a relatively short webinar.

4.7.2. In total, all 3 different training offers, while distinct in their target audience, intend to "support local authorities to become better equipped with the skills, knowledge and tools they need to design and deliver modern digital public services" (Local Digital, 2023).

4.7.3. Whereas the Executive Education programme was meant for a relatively small group of senior local government officers, the Agile Training is a recurring offering available to council staff on different hierarchical levels. The Executive Education programme is currently pending approval for a proposed second

round, including additional resources in the form of overviews and explainers. As a directory of training resources which are not offered or funded by DLUHC, the Training Library will not be evaluated as part of this workstream.

## Theory of Change

4.7.4. **Inputs.** At its core, the agents most relevant to the Training workstream are DLUHC staff and resources made available to design training programmes. This extends to third-party suppliers who support the design and delivery of the training offers. Council staff that elect to participate have to actively engage with the workstream by completing the training.

4.7.5. **Activities.** There are several actions that are key to the design and delivery of the training offers. For instance, prior to any offering, research into different training solutions and providers needed to be conducted. A suitable provider then needs to be procured and tasked with delivering training solutions that increase the digital skills of council staff. Then, the training offers need to be communicated to councils, the sessions delivered, and training providers need to actively engage with participants to identify gaps and room for improvement.

4.7.6. **Outputs.** The outputs are training sessions aligned with the training offers that have been detailed (the training library, agile training classes, and an executive education programme). Supplementary training materials such as session summaries and further reading are also produced.

4.7.7. **Outcomes.** The outcomes are partly dependent on the training activity. The executive education programme aims to get senior leaders to prioritise digital services in their strategic decisions, subsequently allowing them to play a key role in the digital transformation of the local public sector. The other 2 training options are aimed at a broader audience and thus are intended to expose participating council staff to digital and agile ways of working. From this exposure, council staff are expected to increase their own knowledge in these areas and actively implement it in their everyday work. The outcomes can be split into intermediate and long-term outcomes to provide more detail.

4.7.8. **Intermediate Outcomes.**

- **Senior leaders prioritise digital transformation programmes and identify new initiative opportunities.** A direct follow-up to senior council executives participating in the executive education. Leaders should take the enthusiasm

and knowledge and translate that into prioritising modern, digital-savvy strategies.

- **Council staff enrol and participate in available digital skills training.** The courses in the Training Library allow a wide range of interested council staff to get involved with digital skills programmes, potentially facilitating contagion across the organisation.

- **Council staff increase their knowledge of agile and digital ways of working.** This is an outcome of all 3 training activities, but most pertinent to the Agile Training, as it is recurring, and more intense and targeted than the Training Library.

4.7.9. **Long-term Outcomes**.

- **Senior leaders play a key role in the digital transformation. The** upper echelons of councils put their acquired skills to use, implement strategies, and advocate for the importance of digital transformation, encouraging organisational buy-in.

- **Council staff identify and seize opportunities to employ their new skills.** An outcome pertinent to all types of training. Directly relates to overall establishing digital maturity and agile ways of working, thus improving the delivery of services across the board.

- **Council staff share learnings from training sessions with colleagues.** The ambition is that the training offers will primarily support the individual readiness dimension of a new paradigm, but the organic process of participating individuals sharing the lessons learnt from the training offers may lead to a wider set of more informed individuals as a secondary outcome.

- **Participation in digital skills training increases across councils.** The Training Library and the Agile Training are meant as introductory modules that allow council staff to become familiar with digital skills and get them interested in further courses.

4.7.10. **Impacts.** In the long term, the Training workstream may induce cultural change in councils from the level of individuals, highlighting the importance of using digital means in local public service delivery and equipping them with a limited set of tools to support their work. A tentative impact stems from participating

council staff sharing their experiences, thus further improving the digital delivery competencies and skills of the council workforce.

## Discussion

4.7.11. Compared to the other workstreams, the Training intervention is relatively untargeted, leading to a number of potential limitations of the workstream's impact. In this section, we discuss the implicit assumptions underpinning the Training Theory of Change. Additionally, we consider some unintended consequences, acknowledging and exploring potential outcomes that may arise unexpectedly from the intervention and which may not have been considered in the policy design.

### Assumptions

4.7.12. **The workstream's reach is sufficient to induce cultural change within councils**. Whilst the workstream is unique in specifically addressing the individual readiness dimension of the new paradigm, one of the primary concerns with the Training workstream – recognised by the workstream lead – is its limited reach across councils and limited engagement of council staff. With only 250 staff from 100 councils participating in the Agile Training, 75 executives in the Executive Education programme, and (so far) no more than 12 Training Library users per week, the workstream's reach appears constrained. The lack of representation across a broader spectrum of councils raises significant concerns about the workstream's ability to effectively address the diverse needs and challenges faced by the entire sector. The limited reach not only restricts the potential impact within individual councils but also hinders the workstream's capacity to instigate widespread digital transformation and agile skill development across the local government landscape.

4.7.13. **Voluntary participation is sufficient.** As enrolling in the training offerings is voluntary, this may appeal most to council staff that are interested in digital or agile ways of working. Or alternatively, it may lead towards a bias for staff that know they are weak in this area and are sufficiently motivated to seek such training. Some of those, however, may not feel they can spare the time to complete the training. This may limit the ability of the training to permeate through different teams and levels of the participating organisations. Self-selection does not have to be detrimental. It can also be advantageous, as it allows for increased agency. This has been found to work best in non-hierarchical organisations (Ketkar and Workiewicz, 2021).

4.7.14. **Workstream resources are sufficient to induce meaningful skills development.** Although all councils are encouraged to partake in the training opportunities, the Agile Training programme can only accommodate 10 to 12 officers at a time. In cases where sign-ups exceed this capacity, a selection process is conducted by the Training team. One of the primary selection criteria is participation in the Local Digital Fund programme, as this automatically includes the offer of receiving Agile Training. This may lead to a further bias in the representation of participants, limiting the workstream's reach and impact.

4.7.15. **Dissemination of lessons learnt.** The aim of the Training workstream is not to upskill individual employees, but to increase overall digital and agile competencies across participating organisations. With its focus on senior government officials, some of the offerings aim at decision-makers and thus would assume that knowledge trickles down the hierarchical levels of the organisation. However, contagion of knowledge and skills is typically facilitated by individuals occupying a brokerage position, meaning that they connect different actors or cliques (Kwon et al. 2020, Lefebvre et al. 2016), which may not be the case in this workstream.

4.7.16. **Executive Education programme content is relevant to all councils.** Given that the Executive Education programme offerings are not tailored to the individual participants, but rather have a set content, there is a risk of council staff undergoing training, which turns out to be less relevant for their day-to-day operations than is desired. It is worth noting, however, that the resources required to offer tailor-made training, which are specific to the background and requirements of each participant, would be considerably higher than in the current, more broad approach.

4.7.17. The extent to which these constraints apply to the different elements of the Training workstream is varied. The Executive Education offer, for instance, is likely to be more specific, whereas the Training Library offers more opportunities for contagion/diffusion, assuming individuals know about it and choose to access it.

### Unintended consequences

4.7.18. **Neglect of other priorities.** The decision to focus on specific training offers may inadvertently crowd-out resources that would otherwise be allocated to other crucial areas.

4.7.19. **Skills gap widening across council staff.** The self-selection into training sessions might exacerbate the gap in skills related to digital service delivery and agile methodologies, if those who are already more capable in the relevant fields choose to participate in them. This widening gap may not be naturally mitigated through contagion and learning processes, necessitating a proactive approach to identify and address skill disparities.

4.7.20. **Skills gaps between councils.** Given the potential selection bias issues we have noted, different levels of exposure to the training activities could result in a pronounced disparity between councils. This is especially given that the Agile Training is offered to Local Digital Fund-participating councils which, as we have previously mentioned, may be systematically different to non-participants.

### External dependencies

4.7.21. External dependencies associated with the Training workstream vary across the different workstream offers. The success of the Agile Training and Executive Education programme offer is largely dependent on the reliability and expertise of the selected suppliers to deliver effective training sessions for local government officers. The impact of the Training Library in particular is dependent on the training and delivery quality provided by the third party offers listed on it.

4.7.22. The Agile Training is also in some cases strongly linked to the implementation of the Local Digital Fund workstream, as all project teams participating in the Local Digital Fund are encouraged to apply and participate in the Agile Training. This increased the size of the participant pool.

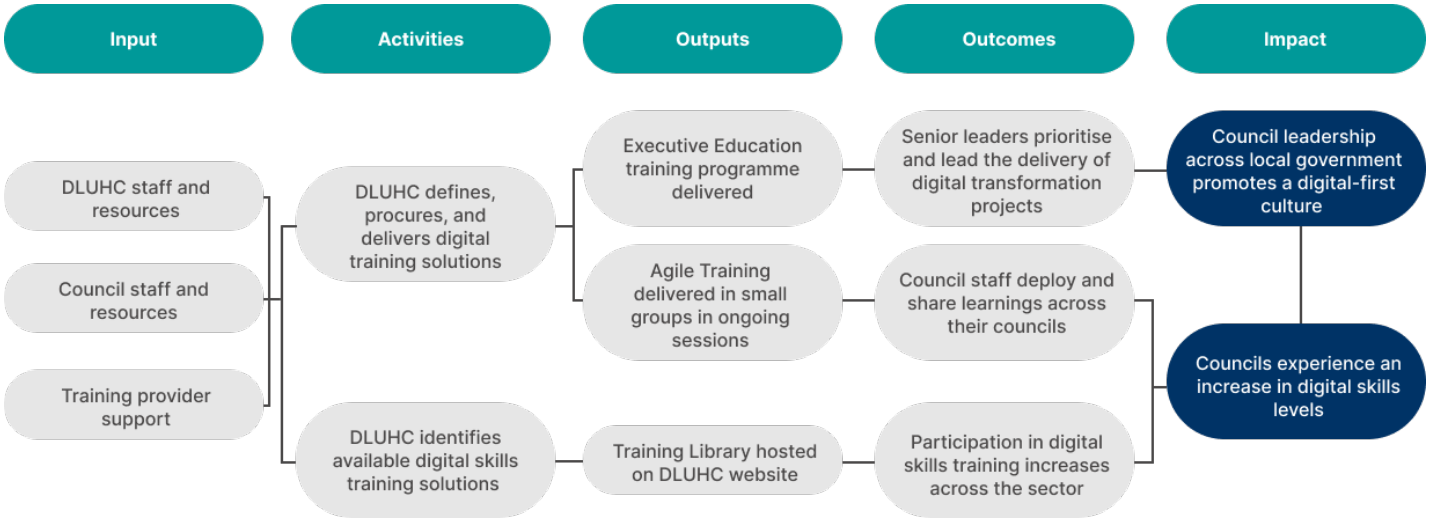
4.7.23. Ultimately, the overall effectiveness of this workstream is contingent on the roles held by individuals undergoing the training within their respective councils and their capacity to disseminate acquired knowledge. This dissemination, in turn, is linked to the specific council setting, encompassing elements such as council leadership, funding allocated for digital initiatives and training, infrastructural dependencies such as legacy technologies, and organisational culture, and thereby influencing the broader impact of the Training workstream.

## Training logic model

4.7.24. Figure 6 illustrates the abbreviated version of the Training Theory of Change outlined in this section. Arrows are used to indicate causal relationships. The

Theory of Change flows from input over activities, outputs, intermediate outcomes, and long-term outcomes to the workstream's impact statements. The extended version can be found in the appendix.

**Figure 6. Training visual logic model (abbreviated version).**



# 5. Approach to evaluating the programme

## 5.1. Introduction

5.1.1. In this chapter, we delve into the 3 different types of evaluation we will conduct: Process, Impact, and Economic. We outline the research questions we seek to address and detail the methods we intend to employ for each. The methods are subsequently associated with individual workstreams, and specific workstream approaches are explored. Additionally, we provide an overview of the data collection tools and conclude the chapter with a discussion on the synergies and challenges we envisage in this evaluation.

5.1.2. The evaluation will rest on a case study approach. As this approach serves as the foundational framework of our evaluation, we start this chapter by introducing it in detail. This approach is adopted due to the specific complexity of the Local Digital programme. The programme's intricacy becomes apparent in the ambitious goal to reshape the overall trajectory of the public sector concerning digital maturity and cyber posture. Moreover, the programme employs diverse approaches across its 5 workstreams to facilitate this transformative shift. It is because of this that, to systematically consolidate the effects of each workstream, we will analyse the results through a case study lens. This methodology allows us to integrate evaluation findings from various workstreams and acknowledges the unique ways in which different councils, given their distinct characteristics, will engage with and be impacted by the programme.

5.1.3. The case study approach was recommended by the Expert Advisory Group in recognition of the diffuse nature of the programme's interventions and the subsequent limitations to the evaluation's ability to identify causal impacts quantitatively. Against these considerable limitations, the evaluation needs to remain cognisant of the possibility that councils will interact with the programme not at random, but because of their prior, heterogeneous motivational and capability attributes. To reflect this, the typology underpinning the case study approach will primarily focus on councils' motivational characteristics that may help to explain why different council types experience different outcomes through the programme. The case study approach, including how the initial typology is defined, is explained in detail in the following section. The Process, Impact, and

Economic Evaluation chapters will subsequently lay out how the respective evaluation types relate to the case study approach.

5.1.4. Overall, the evaluation will take the form of a contribution analysis (Delahais and Toulemonde, 2012; Mayne, 2012; Mayne, 2019), one of the evaluation approaches recommended in the Magenta Book (HM Treasury, 2020). This analytical approach is used in scenarios where there is a plausible, well-reasoned Theory of Change, and the intervention is not experimental. One of the major advantages of contribution analysis is making use of multiple data sources and types of evidence. Based on the collected data, the Theory of Change is then either confirmed or revised. Through the case study approach we will integrate different data sources and ascertain the extent to which the Local Digital interventions contributed to the key outcomes identified in the Theories of Change. As a result, the Theories of Change will then either be confirmed or amended.

## 5.2. A case study approach

5.2.1. Case studies offer the possibility to better illustrate and, consequently, understand research findings. They are often used in scenarios where quantitative data is not sufficiently available to allow for the analysis of subsamples (which is the case in this evaluation, as will be further discussed in the Impact Evaluation section). Additionally, they are well-suited for situations in which prior theory is limited. While the Theories of Change lay out the causal mechanisms, as we discussed in the previous chapter, they are relatively agnostic to differences between councils and treat the sector homogeneously. The local government sector is heterogeneous, and councils across England face different challenges and may require different levels and types of support. The case studies will help to illustrate the effectiveness and efficiency of the programme with respect to different types of councils.

5.2.2. Our case study approach will follow best practices from academic literature (Eisenhardt, 1989; Eisenhardt & Graebner, 2007). Since the research interest is already defined, this involves case selection, the use of multiple instruments and protocols for data collection, the analysis of data from a within-and cross-case perspective and shaping hypotheses - or in the case of this evaluation drawing conclusions and crafting policy recommendations. This section outlines the process we will follow to combine the case study methodology with the council-typology under this framework.

## Step 1: Selecting cases

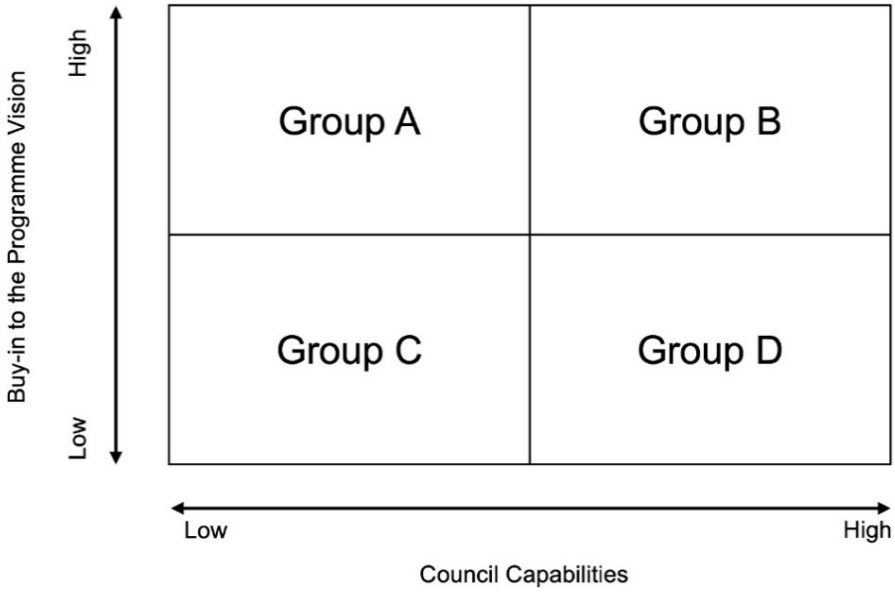
5.2.3. We will employ theoretical sampling, which means that we will focus our efforts on cases that fit conceptually and theoretically meaningful categories. This means that we will not specify the councils along observable characteristics, such as size or region, but their experiences with the programme and stance towards the overall programme vision. We use what we have uncovered about participating councils from our scoping research to identify motivational and resource characteristics that can differentiate between councils.

5.2.4. Along 2 axes, these characteristics are: (1) buy-in to the programme vision, and (2) capabilities. The y-axis, buy-in to the programme vision, captures motivation and overall stance councils take against the Local Digital programme.

Data and information that will be used to capture this will include scores captured through the Digital and Cyber Maturity survey (which captures information aligned with CDDO's Digital and Data Continuous Improvement Framework), levels of participation across Local Digital programme workstreams and activities, and other Process Evaluation findings. The x-axis, capabilities, will be determined by factors such as council digital budget and council size. The exact attributes used to identify council types may iteratively change during the selection process. Thus, 4 groups of council types will be identified across these 2 axes, visually represented in Figure 7:

- **Group A:** high levels of buy-in to the programme vision and low capabilities.
- **Group B:** high levels of buy-in to the programme vision and high capabilities.
- **Group C:** low levels of buy-in to the programme vision and low capabilities.
- **Group D:** low levels of buy-in to the programme vision and high capabilities.

**Figure 7. Visualisation of case study typology groups.**




5.2.5. This typology is preliminary. Identifying cases is complex and often an iterative process. When no strong theoretical convictions exist, this is best done through induction. We will therefore use the preliminary data and analytical results, which mainly stem from the Process Evaluation (which is scheduled to happen earlier than the other evaluations), to identify cases that will be expanded upon in the evaluation. Importantly, we will attempt to identify councils that represent the outer ends of the axes' continuums, rather than councils that would be placed towards the middle of these continuums. When choosing qualitative cases, this technique is sometimes referred to as taking a "maximum variation sample" (Marshall, 1996).

5.2.6. In addition to identifying a final typology reflected through the 2 x 2 matrix, we will also further differentiate between councils representing all 4 identified types using council profile data such as core spending power, region, or council type. The identification of attributes that are meaningful and relevant to the evaluation will also take place over the course of the Process Evaluation. We have conducted an initial analysis of participating councils according to type and region which can be found in the appendix.

## Step 2: Collecting and analysing data

5.2.7. To paint a complete picture of the cases, we will draw from different data sources used across the evaluation stages, including interviews, surveys, and existing

data. We will employ both a within- and cross-case lens to analyse the cases. Taking the inner workings of the cases into account helps build familiarity and understand the role of the council's context, whereas the cross-case perspective allows for comparison. Since we will employ a maximum variation sample-approach, the interpretation of our findings will clearly distinguish between the 4 different types, allowing for substantial and robust conclusions. Methods employed across all evaluation strands and across all 5 workstreams will be used to contextualise and interpret the extent to which the different cases in our typology benefited from the Local Digital programme's efforts. Workstream-level analysis, such as Difference-in-Difference analysis of Digital and Cyber Maturity survey scores, will help to contextualise findings at the case level.

5.2.8. The evaluations will be related to the case study approach as follows:

- **Process Evaluation.** We will collect data from a representative sample of councils across workstreams to refine the case study typology and identify representative cases.

- **Impact Evaluation.** We will consolidate the workstream-level impact evidence from a selected subset of councils included in the Process Evaluation. Concurrently, we will address broader Impact Evaluation questions, and evaluate the impact against the 9 specified outcomes of the Local Digital programme. This programme-level evaluation will be conducted through a case study lens, amalgamating findings from the workstream level to offer a comprehensive perspective. Our plan is to select a total of 20 cases, distributing them evenly across the case typology. These cases will consist of councils that have been analysed in at least one of the workstream level Impact Evaluations.

- **Economic Evaluation.** The Economic Evaluation will mainly take place on a workstream level. For councils that have been analysed as part of this workstream level evaluation, we will explore if there are any patterns relating to the case typology. This will, however, be a convenience sample, as the Economic Evaluation will focus on councils where sufficient data for analysis is available, and not necessarily on councils presented as cases. Where possible, we will integrate our findings into the developed case study typology, identifying whether certain council types are more or less prone to benefit from the overall programme.

5.2.9. In summary, the case study approach will mainly be informed by the Process Evaluation stage, inform the Impact Evaluation, and add value to the Economic Evaluation by contextualising findings according to the different types of councils taking part in the programme.

### Step 3: Conclusions and recommendations

5.2.10. A deep understanding of how the councils representing the cases engaged with different workstreams of the Local Digital programme, and how these case types differed from each other, helps to build hypotheses from the results. These hypotheses will be translated into policy recommendations that are more reflective of the lived experiences of councils than a sector-level analysis would allow.

5.2.11. Through the case study approach, we will align our findings and recommendations with the tripartite perspective of the new paradigm: system-level readiness, organisational-level readiness, and individual-level readiness. The cross-case perspective reveals insights on system- and organisational-level readiness, whereas the within-case perspective reveals insights on organisational- and individual-level readiness.

## 5.3. Process Evaluation

### Research questions

5.3.1. The Process Evaluation of the Local Digital programme is concerned with how the programme was delivered. Questions range from assessing the sufficiency of resources to external factors facilitating or hindering the delivery, but deliberately are not concerned with the programme's effects. The focus is to understand how well the workstream delivery went, what consequences this may have for the workstreams' impacts and what could be improved in the future, as is evident by the overarching questions:

- P1: Were there enough resources?
- P2: Were there any unexpected or unintended issues in the delivery of the intervention?
- P3: To what extent has the intervention reached all the councils that it was intended to reach?
- P4: To what extent has the project created a collaborative community? Is the community active and engaged?

- P5: To what extent has the process built leadership, partnerships, and/or capability in councils?
- P6: To what extent have the economic growth challenges in priority places been addressed?
- P7: What worked well, or less well, for whom, and why?
- P8: What can be learned from the delivery methods used? Could the intervention have been procured and delivered for less cost than it was?
- P9: How did external factors influence the delivery and functioning of interventions?
- P10: How did the delivery partners influence implementing the interventions?

5.3.2. An overview of the breakdown of these research questions into various considerations and their alignment with different workstreams is provided in the appendix.

## Overview of evaluation approach and methods

5.3.3. The Process Evaluation constitutes the first step of the evaluation of the Local Digital programme. This section outlines the approach we will implement to both (1) answer the pre-defined Process Evaluation research questions at the workstream and programme level, and (2) contribute to the development of the council typology. This typology, and the related case study-approach, will guide our Impact Evaluation of the overall programme.

### Process evaluation approach

5.3.4. The Process Evaluation primarily relies on qualitative methods to explore the intricacies of workstream delivery. These methods, effective in uncovering the 'how' and 'why,' will be consistently applied across all workstreams. Methods include: (1) conducting semi-structured interviews, (2) collecting Digital and Cyber Maturity survey scores, (3) gathering workstream delivery data from DLUHC (for example, funding, applications), and (4) collecting council profile data (for example, core spending power, type, population). The results from the Digital and Cyber Maturity survey and the collected data will be used to provide context to interview findings. Differences in the application of these approaches across workstreams and additional information on research samples are outlined next.

5.3.5. **Local Digital Fund.** The Local Digital Fund Process Evaluation research sample will consist of approximately 40 councils. This sample will comprise different

funding rounds, project phases (i.e., Discovery, Alpha, Beta), and project types according to outputs, as identified in the relevant Theory of Change chapter.

5.3.6. With this sample, we will conduct semi-structured interviews, which will include questions around project delivery, the role of delivery partners, how funding has been allocated, sharing and collaboration, as well as the overall satisfaction with the delivery of both the Local Digital programme and the workstream intervention. Results from the Digital and Cyber Maturity survey, and council profile data will aid the interpretation of these interviews.

5.3.7. In addition, we will use workstream delivery data to assess how funding has been distributed not only across different councils according to, for example, type and core spending power, but also across service areas (for example, adult social care, education), and output type (for example, system, data process, or digital and data standards) based on project information.

5.3.8. Finally, for Local Digital Fund and Future Councils we will analyse council participation by employing logistic regression, which estimates the likelihood of being selected into the programme based on attributes specified in the model (see the appendix). These include region, council type, population, and core spending power.

5.3.9. **Future Councils.** The Future Councils Process Evaluation research sample will consist of all 8 councils that have participated in the programme so far. We will conduct in-depth interviews with all councils and contextualise findings with the Digital and Cyber Maturity survey, as well as council profile data. As with the Local Digital Fund, we will also employ logistic regression analysis to identify patterns in awarded funding (if any exist).

5.3.10. **Cyber Support.** The Cyber Support Process Evaluation research sample will consist of approximately 35 councils across the 4 cohorts with whom we will conduct in-depth interviews. While the interview guidelines will be amended to better address the specific intervention, the overall topics of interest are the same as with the other 2 workstreams presented and revolve around the project delivery, delivery partners, and overall satisfaction. As well as council profile data and the Digital and Cyber Maturity survey, results from the Mitigating Malware and Ransomware Survey and Cyber Treatment Plans, will aid the interpretation of the interviews.

5.3.11. **Cyber Assessment Framework.** The Cyber Assessment Framework Process Evaluation research sample will consist of approximately 30 councils across the 3 pilots. Similar to the Cyber Support workstream, councils will be interviewed to understand how the delivery of the Cyber Assessment Framework went and which barriers and facilitating factors played a role. Council profile data and the Digital and Cyber Maturity survey results will be also used to contextualise findings.

5.3.12. **Training.** The Training Process Evaluation research sample will consist of approximately 20 executives who participated in the Executive Education programme. They will cover the delivery of the programme and help to uncover the overall vision of councils' senior representatives related to training, the digital skills of their staff, and the potential to upskill relevant employees. The content of the interviews will differ materially from the other 4 workstreams, as Training was offered to individuals, whereas the other interventions target the organisation.

5.3.13. To summarise, the results produced through the methods deployed here will be used to (1) answer the Process Evaluation research questions for each workstream and the programme, and (2) develop the case study typology. As explained in the next section, this clearly defined case typology, including further sub-types as well as councils representing the identified cases, will be foundational for the Impact and Economic Evaluations.

5.3.14. As previously mentioned, a crucial step in developing this typology involves collecting council profile data across workstreams. This data collection will not only aid in the typology's development, and the contextualisation of Process Evaluation findings, but will also contribute to conducting a fund-level analysis. This analysis involves examining the distribution of funding across councils based on factors like type, region, core spending power, population, and across council functions—specifically tied to Local Digital Fund projects, Future Council initiatives, and Cyber Support activities. This analysis may also support the Impact Evaluation by enabling us to understand the programme's promotion of "levelling up" commitments aimed at reducing regional inequalities.

5.3.15. As part of the fund-level analysis, we will also explore which council functions or service areas have both applied for and received the most funding. This examination is designed to ascertain the extent to which the funding aligns with, and addresses, the priority areas outlined by DLUHC. As part of this process, we will investigate and map the current funding landscape within the local

government sector, encompassing funding opportunities since 2018 and key stakeholders. This broader perspective will enable us to position DLUHC within this landscape, providing a clearer view of the Local Digital programme's reach, and aiding in the identification of funding inefficiencies and opportunities. These insights will, in turn, inform recommendations.

### Case study typology development

5.3.16. From a temporal perspective, the Process Evaluation reflects the first evaluation efforts that will be carried out. These will supply us with a variety of different data points. The data collected will not only be used to answer the Process Evaluation research questions but is also paramount to another main objective of the Process Evaluation: refining the case study typology.

5.3.17. Based on theoretical grounds, we established an initial typology along 2 axes - motivation and capabilities - into which participating councils may be grouped. This typology is both preliminary and allows for more detail within the council types and allow us to identify sub-types. This will be primarily done by using the council profile data gathered about councils participating in each of the programme workstreams (for example, council type, core spending power). We have conducted an initial analysis of participating councils according to type and region which can be found in the appendix. So, councils will be further delineated along other pertinent factors identified throughout the Process Evaluation. Such factors may include:

- digital and cyber maturity, as uncovered through the Digital and Cyber Maturity survey
- economic deprivation, for example, as measured through the multiple deprivation score and core spending power
- dynamic capabilities, for example, the councils' ability to effectively make use of their resources (Teece et al., 1997; Eisenhardt and Martin, 2000)

5.3.18. The factors here serve as examples and are not meant to be exhaustive. By further refining the initial typology, our case study approach follows best practices in qualitative research as we start with a theoretical framework based on subject matter expertise and preliminary findings, but iteratively amend this based on new learnings (Eisenhardt, 1989).

5.3.19. The Process Evaluation will result in a clearly defined typology that is grounded in empirical results. The typology will form the foundation for an Impact Evaluation that accounts for the complexity of both the Local Digital programme

and the heterogeneity of English councils. All 4 types will be populated by approximately 5 councils each, which will capture the heterogeneity within each type. During this process, we will also identify 5 to 10 non-participating councils that will serve as a counterfactual for the Impact Evaluation. The exact number will be subject to theoretical saturation, which is ascertained by the researcher identifying that no new relevant topics come up during the interview process (Eisenhardt, 1989).

5.3.20. As establishing a case study typology is an inherently multi-dimensional effort, it is typically not instructive to rely on quantitative data. Accordingly, most of our refinement will rely on qualitative data gathered through interviews with other data and methods helping to contextualise our considerations.

## 5.4. Impact Evaluation

### Research questions

5.4.1. The Impact Evaluation of the Local Digital programme focuses on understanding the effects of the programme's interventions. This covers the effects and their magnitude, but also unintended consequences and considerations on what would have happened had the interventions not been deployed.

- I1: Did the intervention achieve the expected outcomes, and to what extent?
- I2: To what extent can the outcomes be attributed to the intervention?
- I3: To what extent did the intervention cause the observed changes?
- I4: What causal factors resulted in the observed impacts?
- I5: What would have happened without the programme?
- I6: Did the intervention cause a difference?
- I7: Have the outcomes been influenced by any other external factors?
- I8: Has the project resulted in any unintended outcomes (not related to the delivery)?
- I9: How much can be attributed to external factors?
- I10: To what extent have different groups been impacted in different ways, how, and why?

5.4.2. An overview of the breakdown of these research questions into various considerations and their alignment with different workstreams is provided in the appendix.

## Overview of evaluation approach and methods

5.4.3. We will carry out the Impact Evaluation at 2 levels: the workstream level and the programme level. This will be done in 2 corresponding phases: First, we will examine the impact within each workstream. Second, drawing insights from these workstream level evaluations, we will leverage our case study approach to evaluate the Local Digital programme's impact at the programme level.

### Workstream-level evaluation approach

5.4.4. The evaluation of each workstream is crucial to understand the impact across the overall programme, as it provides granular insights and a solid foundation on which to interpret the case study findings. Due to severe data constraints, this evaluation will mostly rest on qualitative approaches, particularly semi-structured interviews. Alongside this, quantitative data, including expected time and cost savings from Local Digital Fund outputs, will be gathered. Statistical methods - such as regression-type analysis or the statistical identification of causal effects – were considered, but the aforementioned data constraints mean that statistical assumptions will likely not be met, and the results will thus not be robust. Below we lay out which methods will be used to assess the impact of each workstream based on its respective Theory of Change.

5.4.5. **Local Digital Fund.** To conduct the Impact Evaluation of the Local Digital Fund workstream, we will choose a subset of councils from the Process Evaluation's Local Digital Fund sample. This subset will encompass (1) projects from the most recent funding round, Round 6, as they offer the chance to establish a baseline and track impact over the course of the intervention, and (2) a variety of projects across different phases and types. For further details on project types based on outputs, please refer to the Local Digital Fund Theory of Change chapter.

5.4.6. The impacts of selected projects will be identified. The selection of these projects will be informed by the project stage (i.e., whether the project has reached the implementation of the developed output) and the availability of baseline and impact data. Additionally, the interviews will be used to gauge if the intervention had any impact on collaboration between councils as well as agile practices. The latter, as well as the councils' overall digital stance, will be further informed through the Digital and Cyber Maturity survey that we administer to Round 6 councils at multiple time points.

5.4.7. Through this survey, we will employ a Difference-in-Difference analysis, which is a statistical technique used to identify and estimate an intervention's effect in non-experimental settings (see the appendix). The method resolves the issue of time-invariant confounding factors, potentially allowing for the identification of causality. The effect of an intervention is calculated by first calculating the change in the outcome variable for a treated group, and then subtracting the change in the outcome variable for a comparison group over the same period. We identified a comparison group through statistical matching, precisely Mahalanobis Distance Matching (see the appendix), and have also administered the survey to that group.

5.4.8. For statistical analysis, the Digital and Cyber Maturity Survey will only be employed with Round 6 councils and a comparison group, for whom we obtained baseline data before project initiation. This results in a total of 17 treatment councils and 17 councils in the comparison group. Based on the small sample size, statistical approaches will likely prove challenging, as analyses which are run on small sample sizes often suffer from a lack of statistical power. This means that, even when effects are found to be not significant - believed to be coincidental rather than due to the intervention - it cannot be reasonably ruled out that the effect would be significant if more data points were available. Therefore, the Difference-in-Difference analysis is unlikely to lead to robust results.

5.4.9. **Future Councils.** The 8 councils who took part in the Future Councils workstream were also asked to take part in the Digital and Cyber Maturity survey and will further be asked to do so in subsequent waves. While we will also perform Difference-in-Difference analysis on the treated councils and a comparison group (identified in the same way as above), the small sample size - 8 treated councils and 8 comparison councils – will affect its robustness. Therefore, the Impact Evaluation of the Future Councils workstream will also heavily rely on interviews. We will gather impact data from all 8 treatment councils. Separately, each council is anticipated to implement a series of digital transformation projects or initiatives after the pilot phase. For those projects within the councils that have progressed to a stage where impact data can be collected, we will use this data for evaluating the workstream.

5.4.10. **Cyber Support.** To conduct the Impact Evaluation of the Cyber Support workstream, we will choose a subset of councils from the Process Evaluation. This subset will include councils from all cohorts, although we will mainly focus

on those that have actioned their Cyber Treatment Plans. Like the previous 2 workstreams discussed here, the Cyber Support workstream's Impact Evaluation will mostly rest on qualitative interviews. Results from the Mitigating Malware and Ransomware (MMR) survey (the baseline) will be compared with results based on the actions completed or targeted by participating councils as a result of their Cyber Treatment Plans to inform a risk and cost model (described below and from paragraph 301).

5.4.11. A Cyber Risk and Cost Model will be developed to understand how changes made as part of the Cyber Support programme might impact a council's risk of a malware and ransomware breach. This model aims to address the fact that, as has been explained in the Theory of Change, it is challenging to assess the impacts of these activities on a council's exposure to threats without factoring for a wider set of cyber posture considerations.

5.4.12. The Cyber Risk and Cost Model will become a standalone tool that DLUHC can continue to use outside of the evaluation's context.

5.4.13. **Cyber Assessment Framework.** To carry out the Impact Evaluation of the Cyber Assessment Framework, we will select a subset of councils from the Process Evaluation. This subset will encompass councils from various pilots, with a primary emphasis on those that have completed the assessment. The Impact Evaluation will predominantly rely on qualitative interviews.

5.4.14. **Training.** For the Training workstream, the Impact Evaluation is based on surveys that participating council staff took before and after attending the agile training. This will be done through a statistical comparison of average response values (sometimes referred to as difference-in-means analysis; see the appendix). Additionally, we will administer a survey to participating council staff 3 months after they took the training. On this data, we will run multiple linear regression to uncover the relationship between tangible training outcomes and sociodemographic characteristics (for example, tenure within the council; see the appendix). In addition, about 20 interviews with senior council staff will be conducted. While these interviews will assess the impact of the Executive Education Programme, they will also focus on understanding the councils' upper management's perspective on strategic levers of change that would impact the digital transformation, as well as pertinent challenges.

5.4.15. As part of the Impact Evaluation at the workstream level, we will collect data to track the objectives specified in the programme's 2022 business case, as detailed in chapter 2 of this study. While we will explore the feasibility of assessing the extent to which these objectives have been met, our assessment of workstream impact will be primarily guided by the individual Theory of Change developed in collaboration with intervention teams.

### Programme-level evaluation approach

5.4.16. To conduct the programme-level Impact Evaluation, we will aggregate findings from individual workstreams, and identify unintended or cross-workstream impact through in-depth case studies.

5.4.17. Building on the Impact Evaluation of each of the workstreams, we will use the case study approach introduced in this chapter to evaluate impact at the overall programme level. In alignment with the typology derived from the Process Evaluation, we will select 20 councils - derived from the workstream-level Impact Evaluation subset - for in-depth case study analysis. Through this lens, we will (1) evaluate impact against the 9 Local Digital programme outcome areas, (2) assess the contribution of each workstream towards programme outcome areas, and (3) identify unintended impact areas. To do this, we will:

- **Collect impact data across case study councils.** We will collect impact data across the selected 20 case study councils, and a comparison group of 5 to 10 councils that did not participate in the programme. Impact data will include data against the 9 Local Digital programme outcomes (see appendix), and any information on potential broader impact experienced by participating councils. We will use in-depth interviews as the primary tool, supplemented by council internal data requests, and publicly available data (for example, spend data). Note that some information will have already been gathered at the workstream-level Impact Evaluation stage.

- **Conduct within-council and cross-council analysis.** For each council type, the data collected will be analysed via a within-council approach, meaning that the Local Digital programme's impact on the council will be assessed through interpreting the entirety of data collected. We will also perform a cross-council analysis for each type, assessing to what extent the Local Digital programme's impact on councils varies within that type. This is instrumental to understand to what extent policy recommendations can be

made for the whole stylised council type and which differences, if any, should be considered when designing policy.

- **Impact aggregation and discussion.** Having assessed the impact of the Local Digital programme per type, differences between the types can be uncovered and discussed. Aggregating the collected information in a stepwise manner allows for a detailed interpretation with minimal information loss, while still resulting in a conclusion that is manageable, for example, challenges and opportunities for future policy along 4 different types of councils.

5.4.18. Ultimately, the analysis will lead to a detailed understanding of the extent to which the different workstreams and the overall programme contributed to the new paradigm through the realisation of outcome areas. As part of our contribution analytical approach, the Impact Evaluation's results will lead to relevant parts of the Theories of Changes being either confirmed or amended to better reflect reality.

5.4.19. While statistical methods are often employed in Impact Evaluations to determine causal effects, the evaluation faces challenges due to factors like small sample sizes and issues with historical data. We aim to conduct statistical analyses where appropriate, such as using the Difference-in-Difference method to assess the impact of the Local Digital Fund on councils' digital maturity. However, the case study approach will be the primary tool for the Impact Evaluation, with quantitative data serving to contextualise and aid interpretation of interview findings. Notably, measures to enhance the viability of statistical methods, like increasing sample size, will not be pursued because it would be disproportionate to the expected additional information that such an exercise would provide.

## 5.5. Economic Evaluation

### Research Questions

5.5.1. The third evaluation strand, Economic Evaluation, will show whether the resources for the Local Digital programme achieved value for money (VfM). The research questions at this step of the evaluation examine the costs incurred and benefits gained by the workstreams. The overarching questions are:

- E1: What was the value-for-money of the intervention?
- E2: What are the benefits?

- E3: What are the costs?
- E4: Do the benefits outweigh the costs?
- E5: What is the ratio of costs to benefits?
- E6: How do these compare to alternatives?

5.5.2. An overview of the breakdown of these research questions into various considerations and their alignment with different workstreams is provided in the appendix.

## Overview of evaluation approach and methods

### Costs

5.5.3. We foresee the programme's outputs and outcomes to have incurred the following costs.

5.5.4. **Programme delivery costs.** These are those resources that DLUHC will have disbursed through the workstreams. As of the Autumn 2021 Spending Review (SR21), a budget of £85.8 million is available to the Local Digital programme until March 2025. As of March 2024, DLUHC has allocated £42,883,965 of this budget to councils through direct grants. Official workstream documentation will be assessed to identify the value of spending that has occurred against the available budget.

5.5.5. **Administrative costs.** These are the additional resources committed by DLUHC and local authorities to achieve the objectives of the funding they receive through the workstreams. This can include councils' own expenditure on Local Digital Fund projects, staff travel time to Training events and the procurement of experts for the bid writing process. Evidence for the accrual of such costs will be collected through the interview process.

5.5.6. **Maintenance Costs.** For projects that introduce new software systems to councils, maintenance costs are a key consideration. These costs encompass various aspects, including software updates, bug fixes, technical support, and ongoing training for personnel. These costs can be determined for mature projects where a solution has been implemented and maintenance has been identified as a driver of the solution's long-term sustainability in a council. These costs will be identified through the interview process with project teams.

5.5.7. **Onboarding Costs.** These are the sunk costs associated with the introduction of a new software system or process to a council. For a given solution or service, councils that contract external support in the implementation phase can provide the quotes of the expenditure. Similarly, if councils using a system funded by a Local Digital initiative experience productivity loss as operations are temporarily disrupted during the transition phase, these delays can be costed using the wage rates of relevant staff members.

5.5.8. **Duplicative Costs.** These costs identify redundancies in funding. For example, these can arise in the funding of multiple Discovery projects that employ similar expertise and tools and have significant overlap in objectives. They may also arise in the provision of a service to a council that has already been independently acquired by the local authority out of their own budget. In addition to redundant expenditure, these costs can include staff time that is engaged in an unnecessary activity.

## Benefits

5.5.9. The programme's benefits will be identified at the 2 levels at which we conduct the impact evaluation: the workstream level and the programme level. This allows us to understand the economic value of those benefits to which plausible links can be established from the workstreams' activities and outputs.

### Workstream-level evaluation approach

5.5.10. We will assign a monetary value, where possible, to the observed gains from the attainment of a workstream's outputs, rather than their outcomes. By focusing on the outputs of the workstreams we may also be able to report the social cost effectiveness of the benefits obtained. Measures of social cost effectiveness will be reportable at the workstream level as the identified benefits from these outputs can be linked to the explicit costs of obtaining them.

5.5.11. Social cost effectiveness allows for the assessment of those unmonitiseable benefits to which a unit can be assigned. An example of such a benefit is the percentage of council staff to have received training on the Agile way of working. While the monetary benefit of this output would be difficult to plausibly capture, this unit can be ascertained for participating councils.

5.5.12. We first outline the approaches we will use to precisely quantify and assign a monetary value to the benefits that are measurable, and any additional costs associated with their attainment.

5.5.13. **Local Digital Fund.** Funded projects are the key outputs of this workstream. Out of the 61 projects funded through this workstream, we will only gather benefits data from those that have reached a stage where outputs are implemented. As of December 23, 27 out of the 61 funded projects have reached the Beta or Live stage. These 27 projects are at various implementation stages, with many still piloting outputs. We will choose a sample of projects for the Impact Evaluation based on project maturity and the availability of baseline and impact data.

5.5.14. In this way, in the Impact Evaluation we will have determined the benefits accrued by a sample of these projects. Benefits that can be easily monetised, such as average cost savings and time savings related to a service, will be scaled up by the number of known users of the services created by funded projects.

5.5.15. The business cases of mature projects will be used to identify such quantifiable outcomes. For example, for a project reducing frictions in a local grant approval process, the number of observed applications successfully processed by the new system will be used in the evaluation.

5.5.16. **Future Councils.** For the 8 councils that participated in the pilot phase of this workstream, we will assess the use of their grant funding.

5.5.17. For councils that implement solutions or interventions under this workstream, their potential benefit will be identified on a case-by-case basis. This approach will be similar to that of Local Digital Fund projects, where we will aim to quantify or monetise the gains that have been made. As this workstream remains in an early stage, we cannot currently provide an example of the way the benefits from an intervention can be quantified.

5.5.18. **Training.** To ascertain the value of the training provided by this workstream, we will use responses from a post-course survey asking participants to state their council's willingness to pay for the session they attended. Whilst we recognise the subjective nature of likely responses to such a stated preferences approach, after discussions with the workstream leads we consider it a limited but feasible way of assigning a monetary value to the workstream's outputs.

5.5.19. To understand the cost effectiveness of this workstream, we will also identify the market costs of similar training programs. This will allow us to understand if there

are efficiency gains in securing such courses in bulk rather than being secured on a council-by-council basis.

5.5.20. **Cyber Support.** The economic benefits of this workstream are primarily in the extent to which the implementation of Cyber Treatment Plans and associated actions led to cost savings from improvements in a council's resilience to a cyber-attack. To gauge these savings, we will develop a cyber cost and cyber risk model, a more detailed account of which is found later in this section. The costs and efficiency of this workstream will be compared to market alternatives that offer similar services. This will require an understanding of the costs of specialist firms and consultants within this field.

5.5.21. **Cyber Assessment Framework.** We will assess the indirect cost savings, reflected in the reduction of time and resources, as well as the direct cost savings, captured by decreased reliance on essential third-party resources, such as consultants. We will identify these key changes through the interview process.

**Cyber Risk and Cost Model**

5.5.22. As part of the Economic Evaluation of the Cyber Support programme, a model will be developed that captures 2 crucial dimensions: 1) the estimated hypothetical cost of cyber-attacks; and 2) the risk of such attacks occurring. This is made feasible by the MMR survey, noted above, which captured a range of factors relevant to the risk profile and impact of malware and ransomware attacks on councils.

5.5.23. **Model structure.** We envisage the model comprising 2 main components:

- **The cost component.** This would estimate the hypothetical cost of a cyber-attack and link it to the factors addressed by the Cyber Treatment Plans developed in the Cyber Support workstream. This would enable us to see how much of that cost would be saved by councils that implemented cyber security measures based on the required remediation actions outlined in their Cyber Treatment Plans.

- **The risk component.** This would involve a quantitative risk analysis that identifies the contribution of the factors captured in the MMR survey to a councils' cyber risk profile.

5.5.24. More information on each of these components is provided below. We are working with DLUHC to finalise the model structure and how the 2 components will relate to each other.

5.5.25. **Model inputs.** The key input to these models - and which enables them to capture the Cyber Support workstream's impact - is the MMR survey. As noted above, the summary 'MMR score' that DLUHC used to prioritise Cyber Support was in part subjective, so it is inappropriate for this model. We are therefore working with DLUHC to identify an alternative measure which captures the relevant details from the MMR survey.

5.5.26. Historical malware and ransomware breaches will inform the cost inputs, especially those from the experience of UK councils (on which DLUHC holds good data), but also across the UK public sector, international governments, and private sector (for example to ensure direct and indirect costs can be captured). The likely cost of a malware or ransomware breach for a given council will be informed using these methods.

**Model outputs.** We envisage this model being able to generate several useful outputs. Presently, we expect it to produce the following:

- Annualised rate of occurrence – This captures the efficacy of preventative controls in reducing the likelihood of a malware or ransomware breach occurring for councils over a period.

- Annual loss expectancy – This determines the change in expected loss to councils due to the risk of malware or ransomware and the subsequent reduction in impact to estimate potential cost savings.

5.5.27. **The cost component.** To accurately assess and estimate short term versus long term costs such as investigating cyber-attacks, replacing equipment, staff time costs required for recovery and recruiting cyber specialists alongside lost revenue costs is variable and involves many data challenges. These costs vary depending on the complexity of the nature and severity of a cyber-attack and is therefore impossible to assess the impact of these activities on a council's exposure to ransomware threats without factoring for a wider set of cyber posture considerations specific to each council.

5.5.28. The cost component of the model primarily covers the known quantitative data that we have such as the cost of an attack per council pulled from historic data.

These costs form the main building blocks of what will become the predicted hypothetical costs; however, these values alone do not capture current council risk posture and are static by nature, so the risk component is introduced to enrich the values.

5.5.29. **The risk component.** The use of a quantitative risk analysis methodology allows us to take a comprehensive approach whilst accounting for complexity relative to each council. As such, the risk component would identify how changes made as part of the Cyber Support programme might impact a council's susceptibility to a malware and ransomware breach.

5.5.30. For this purpose, we recommend using the MITRE ATT&CK framework for 2 main purposes. Firstly, we can utilise the pre-existing framework to identify potential attack vectors and tactics used by threat actors in the context of local councils and use this to estimate the proportion of the likelihood of malware or ransomware threats materialising that is accounted for by the Cyber Support changes. Secondly, we can quantify dynamic attack paths based on councils' control effectiveness and use this mapping to feed the rest of the model. The MITRE ATT&CK framework will be supported by empirical evidence to understand a council's wider risk posture and subsequent reduction in risk following Cyber Support funding interventions. The main outcome of this framework will be an understanding of the contribution made by the Cyber Support programme to a council's wider risk posture.

5.5.31. **The identification strategy and the counterfactual.** The model is a tool to estimate how the hypothetical costs of a cyber-attack will change given the implementation of Cyber Treatment Plans. Key to this is understanding whether the factors captured in the MMR survey change. This presents 2 challenges: 1) how we can capture these changes; and 2) whether they or other relevant factors would have changed without the Cyber Support workstream.

5.5.32. The MMR survey provides a baseline of councils' risk profiles in 2020-21 - before the Cyber Support workstream. From discussions with the Cyber Support workstream leads and delivery partners, we understand that actions in the Cyber Treatment Plans include the majority of factors captured in the MMR survey. This may enable us to identify those actions that would change participating councils' responses if the survey were to be run again today. This potentially avoids having to conduct a second MMR survey.

5.5.33. The second challenge is to establish what would have happened absent the Cyber Support workstream. The interviews we plan to conduct with the participating councils will uncover the extent to which MMR factors would have been addressed anyway. But it is plausible that the relative importance of other attack vectors, on which we have less baseline data, would have changed too. So, we propose to develop counterfactual scenarios to illustrate the cost savings driven by Cyber Support in light of different combinations of alternative actions that the participating councils could have taken to address their risk and impact profiles. This will in part be informed by the interviews, discussions with DLUHC, wider engagement with sector stakeholders and the subject knowledge of the evaluation partners.

**Programme-level evaluation approach**

5.5.34. For the programme-level evaluation we will aggregate the workstream and case study findings. Where possible, this will be supplemented by additional benefits brought about by the programme's transformational initiatives.

5.5.35. **Aggregate workstream and case study findings.** The first approach we will consider is a straightforward aggregation of the costs and benefits we associate with individual workstreams, as well as any broader and/or cross-workstream cost and benefits identified through the case study analysis. The key constraint to this procedure is the exclusion of those benefits that are unquantifiable. While, at the workstream level we may be able to report cost effectiveness measures for quantifiable but unmonetiseable gains, we expect this exercise to generate a variety of measures that cannot be aggregated. For example, gains in the efficiency of a grant approval process, where the unit is the number of grants processed over time, cannot be added to the gains from an improved child-placement portal, where the unit may be the average length of placements (a proxy for the improvement in quality of matches between children and host families). This aggregation will be conducted against the 9 identified programme-level outcomes. See the appendix for more information on the alignment between workstream-level and programme-level outcomes.

5.5.36. **Additional Benefits.** The ambitions of the Local Digital programme include enabling broader cultural changes in the local government sector that ensure its digital and cyber maturity. Where possible, we would endeavour to attach a monetary value to the achievement of these objectives.

5.5.37. For example, our Impact Evaluation may find that participation in a Local Digital initiative created or increased the demand within councils to digitally transform. In that case the Cyber and Digital Maturity surveys can provide the value of the investments committed by councils to digital transformation projects.

5.5.38. Similarly, if we find credible evidence that programme participation led to changes in council-level hiring practice, for example, through the demand of higher digital literacy, we can use vacancy data to ascertain the value of these new skills to employers.

5.5.39. Some Local Digital Fund projects may enable us to identify councils' revealed willingness to pay for certain intangible benefits. For example, if a council replaces a service with an open-source community-maintained alternative that is more expensive, the difference in costs indicates the value placed on collaboration. Collaboration is a hallmark of an innovation ecosystem and is therefore a cultural factor that Local Digital is interested in fostering.

**Treatment of unmonetiseable benefits**

5.5.40. The salient challenge we anticipate encountering in both Economic Evaluation tiers is the difficulty in assigning a monetary value to every benefit accrued from the interventions. However, having accounted for the programme's or workstreams' overall costs and assigned monetary values to the associated gains whenever possible, the difference between the aggregated costs and benefits will provide the minimum value that the unmonetised gains would need to be for the programme or workstream to 'break-even' (these are 'switching values', as recommended by the DLUHC appraisal guide).

5.5.41. It is infeasible to quantify and monetise several of the long-run outcomes of the programme and to attribute changes to the programme. Being unable to quantify and monetise several long-run outcomes risks the Benefit Cost Ratios (BCRs) understating the programme's value. Not being able to attribute the changes to the programme may weaken the overall VfM assessment.

5.5.42. To strengthen the VfM, material non-monetisable benefits identified at either the workstream or programme level will be assessed in terms of their likely magnitude and direction of impact using a consistent scale. We will then combine non-monetised impacts with monetised impacts when assessing VfM using VfM categories, as recommended by the DLUHC appraisal guide.

## 5.6. Synergies and challenges

### Data synergies

5.6.1. A recurring theme of the Local Digital programme's evaluation is the interconnectedness of workstreams. While the Case Study approach will help to integrate the data obtained across workstreams, there are several synergies that can be leveraged to aid the workstreams' evaluations. We identified 3 types of synergies, which we next explain.

5.6.2. **Triangulation.** The most straightforward way in which data synergies offer benefits across workstreams is through triangulation. Triangulation typically describes the process of using different methodological approaches to analyse a given phenomenon. However, triangulation may also refer to the use of data from different sources to understand a phenomenon from different perspectives. Much of the data we gather with respect to one workstream can be used to inform and contextualise the case studies we will develop, and thus the evaluation of the overall programme. For instance, the digital maturity of councils, which we assess through a survey in the Local Digital Fund workstream, is related to the council's cyber posture, which, for instance, may be reflected through its MMR survey score.

5.6.3. **Population Data.** To conduct several elements of the workstreams' Process Evaluations we will use public data on every English council. Given that this makes up the whole population of interest, we refer to it as 'population data'. Such data, for instance on core spending power or multiple deprivation scores, can be used to inform results collected through surveys. For example, data collected through the Digital and Cyber Maturity survey can be enriched by merging it with certain population data.

5.6.4. **Engagement.** For approaches in which data is collected directly from participating organisations over multiple time points, fostering engagement and buy-in is crucial. This can prove difficult when reaching out to council representatives via email, asking them to repeatedly complete a survey. Interviews are typically more easily scheduled, as they can be perceived as beneficial for both the interviewer and the interviewee (who can ask questions back). We will thus use interviews with councils to explain the purpose of the evaluation to them and take the opportunity to inform them of our other ongoing data collection efforts (in the same or other workstreams).

## Methodological synergies

5.6.5. We are using a host of different methods across the 5 workstreams. Hence, we explore if the use of similar methods across workstreams allows, for instance, for comparability, or additional insights that transcend the analysis of singular workstreams. There are several potential synergies:

- **Triangulation through methods.** For most workstreams, we use an assortment of different methods to answer DLUHC's research questions, leading to natural triangulation within the workstreams. This can help mitigate some of the challenges we deem likely. For instance, when conducting a difference-in-differences analysis, a small sample size may indicate a lack of statistical power, meaning that confidence in the results is limited. Having conducted interviews on the same topic helps to potentially still interpret the estimates produced by the analysis in a meaningful way that is less reliant on the reported statistical significance.

- **Analysis of Local Digital Declaration signatories.** Having signed the Local Digital Declaration is a prerequisite for councils to apply to the workstreams. The eligible sample we will be evaluating is thus constrained to signatories. To account for this, we compare the observable characteristics of the Local Digital Declaration signatories with those of the non-signed counterparts to identify any significant differences. This information is crucial to understand the external validity of any impact we find. The external validity of a result relates to its generalisability. If the councils on whom an impact is found differ in relevant and significant ways from councils that have not signed the Declaration, then the generalisability of the impact to all councils is constrained.

## Joint challenges

5.6.6. The evaluation of the Local Digital programme faces multiple challenges that touch upon different workstreams. Some of these may be mitigated either through treating the evaluation as a holistic project, as is the case with a lack of buy-in, while others may be mitigated through directly addressing them in the research methods, as is the case with changes in personnel responding to surveys.

5.6.7. **Buy-in.** Participation in the evaluation is not mandatory for councils. As such, facilitating council buy-in is a key challenge to the evaluation. This challenge becomes more pronounced in cases where council representatives are (1) asked

to respond to multiple different evaluation efforts, and (2) asked to repeatedly respond to evaluation efforts. We will mitigate this by identifying opportunities to directly engage with council representatives, explaining the idea behind the evaluation and its importance to them, for instance when conducting interviews. Additionally, we will mitigate this by collapsing research questions across different evaluation strands, for instance Process and Impact Evaluation, to single data collection efforts (for example, interviews) wherever possible.

5.6.8. **Sample size.** Many of the statistical approaches will suffer from small sample sizes, which will constrain the statistical power of our estimates. This means that the quantitative analysis we conduct will not be able to pick up causal effects that are small and will mischaracterise them as 'insignificant'. This limits our ability to dismiss insignificant results in our Impact Evaluation.

5.6.9. **Simultaneous policy implementation.** Several councils have received benefits from more than one workstream. The simultaneous implementation of multiple interventions limits the ability to attribute causal effects to a single workstream. A benefit of our council typology and case study approach is that it will provide space for us to carefully trace the potential impacts of multiple interventions by combining the broad range of qualitative and quantitative evidence that we collect. We will be able to analyse different configurations of interventions that councils are subject to and ascertain patterns, if any are present. The holistic lens we are taking allows, for example, to establish if the simultaneous engagement with workstreams aimed at improving digital maturity and cyber posture offers synergies that councils leverage, or if the lack of such simultaneous treatment acts as a barrier.

5.6.10. **Subjective survey responses and changes in personnel.** For several workstreams, our proposed analysis will use survey responses. This data captures a respondent's subjective perspective on various aspects of their own experiences or their organisation's digital and cyber posture. Because of the inherent subjectivity of these responses, comparison across councils is challenging. These biases do extend to our understanding of the individual cases' disposition. However, considering that many different data sources feed into our understanding of the cases, this will allow us to identify survey responses that fall out of place.

5.6.11. **Lack of baseline data.** For most workstreams, the interventions have already been underway and partly implemented when the evaluation was commissioned.

While this is somewhat managed through the distinction between cohorts, the natural time point at which to collect baseline lies in the past. This is because even councils being part of current intervention cohorts may be influenced by the overall existence of the interventions, no matter if they were subject to them or not. While retrospective information may be collected through interviews, for instance, such data is subject to bias, which needs to be taken into account when interpreting the data. This will be managed through relying on mostly qualitative methods, where respondents can be asked about the pre-intervention period and data does not have to be quantifiable.

5.6.12. **Insufficient evaluation period.** The duration of the evaluation period is likely to be too short to identify any meaningful effects materialising in the periods that follow. In the early years following DLUHC's various interventions, it is likely that returns on investment seem low or unidentifiable. This does not necessarily mean that the intervention has failed. A lag in the realisation of the benefits from the workstreams can be expected as existing legacy contracts take time to expire, and new ways of working need to be sustainably implemented and institutionalised across an organisation before they lead to meaningful change, which may take a long time. In other words, absence of evidence is not evidence of absence.

## 5.7. Overview of research tools and methodological approaches

### Process Evaluation

5.7.1. The Process Evaluation of the Local Digital programme will be based on data collected from a sample of councils spanning across different workstreams. Table 1 outlines the various research tools and methodological approaches that will be employed for the Process Evaluation, along with the anticipated research sample for each of the workstreams.

**Table 1. Process Evaluation tools and methods overview.**

| Tools | Description | Workstreams | Estimated sample |
|---|---|---|---|
| DLUHC staff interviews | Semi-structured interviews to gather qualitative information regarding the experience of delivery staff across workstream interventions. Associated methods: Thematic analysis. | All | Approx. 15 DLUHC delivery staff across workstreams |
| Council interviews | Semi-structured interviews to gather qualitative information regarding the experience of treatment councils across workstream interventions. Associated methods: Thematic analysis. | LDF, FC, CS, CAF | Approx. 40 LDF, 8 FC, 30 CS, and 30 CAF treatment councils |
| Council senior leadership interviews | Semi-structured interviews to gather qualitative information regarding the experience of senior leaders attending the Executive Education programme. Associated methods: Thematic analysis. | Training | Approx. 20 council senior leadership staff from Executive Education programme attendees |
| Digital and Cyber Maturity survey | Self-administered questionnaire to assess a council's digital and cyber posture. Associated methods: Survey Descriptives. | All | Approx. 40 LDF, 8 FC, 30 CS, 30 CAF, and 20 Training treatment councils |
| Workstream delivery data | Available data to understand delivery and participation in workstream activities. This will include application data, attendance data, and feedback provided by councils regarding workstream activities. Associated methods: Regression Type Analysis (LDF, FC, and CS). | All | NA |
| Publicly available council profile data | Publicly available council data gathered to assess council representativeness across workstreams and contextualise interview findings. This will include data such as council type, core spending power, population, multiple deprivation index, etc. Associated methods: Regression Type Analysis (LDF, FC, and CS). | All | NA |

## Impact Evaluation

5.7.2. The Impact Evaluation of the Fund will rely on data collected from a subset of councils from the Process Evaluation sample. Table 2 presents an overview of the various research tools and methodological approaches that will be employed for the Impact Evaluation. It is worth noting that some tools overlap with those used in the Process Evaluation, but they will serve a different purpose in the Impact Evaluation, as indicated in the 'Description' column.

## Table 2. Impact Evaluation tools and methods overview.

| Tools | Description | Workstreams |
|---|---|---|
| Council interviews | Semi-structured interviews to gather qualitative and quantitative information regarding the impact that workstream interventions have had across councils. Associated methods: Thematic analysis. | All |
| Project documentation | Documents such as benefit and business cases to understand the impact of LDF and FC funded projects and/or initiatives. | LDF, FC |
| Agile Training Survey | Self-administered questionnaire to understand progress against Agile Training objectives. The survey is divided into 3 sub-surveys distributed to participants (1) before the course, (2) directly after completing the course, and (3) 3 months following the completion of the course. Associated methods: Regression-type analysis, Difference in Means. | Training |
| Mitigating Malware and Ransomware (MMR) Survey | Self-administered questionnaire to evaluate improvement of council preparedness against malware and ransomware following the Cyber Support intervention. Results obtained by councils before the intervention will be compared to results obtained following the intervention. Associated methods: Descriptive analysis. | CS |
| Cyber Treatment Plans | Cyber Treatment Plans developed as part of the CS workstream, used to assess workstream activities and improvement against the results obtained from the MMR survey. | CS |
| Individual council cyber data | Relevant council cyber data gathered to identify (1) cyber risks reduction, and (2) factors that could lead to cost savings through the effective avoidance or mitigation of malware on ransomware breaches because of CS, CAF, and FC activities. This analysis will involve incorporating the gathered data, and MMR survey data, into the Cyber Risk and Cost Model. Associated methods: Quantitative analysis of impact and risk scores based on MMR survey (CS only). | CS, CAF, FC |
| Individual council digital data | Data related to LDF and FC projects and/or initiatives. This will include financial data to demonstrate cost and time savings, service delivery data that illustrates resident benefits. | LDF, FC |
| Procurement and spend data | Publicly available contract and spend data gathered to validate council-reported procurement information relevant to their digital and cyber activities. Sources include individual council contract registers, and procurement databases such as Tussell. | LDF, FC |
| Software vendor data | Public data regarding local government software vendors used to understand the impact of LDF and FC projects and/or initiatives. Data will be gathered through procurement data bases, as well as using methods such as Mystery Shopping. | LDF, FC |
| Digital and Cyber Maturity survey | Self-administered questionnaire to assess the extent to which the intervention has had an impact on council digital and cyber maturity. To be used only with LDF Round 6 and FC treatment and comparison councils. Associated methods: Identification/Estimation of Causal Effects. | LDF, FC |

## Economic Evaluation

5.7.3. The Economic Evaluation enumerates the costs and benefits associated with a policy's implementation, attaching a monetary value to those costs and benefits where possible. To conduct this exercise, we will exploit the real expenditure data of the workstreams, councils as well as self-reported valuations of benefits, where available. Table 3 summarises the research tools we expect to use to conduct this stage of the evaluation.

**Table 3. Economic Evaluation tools and methods overview.**

| Tools | Description | Workstreams |
|---|---|---|
| Individual council cyber data | Relevant council cyber data gathered to identify (1) cyber risks reduction, and (2) cost savings through the effective avoidance or mitigation of malware on ransomware breaches because of CS and CAF activities. This will involve incorporating the gathered data into the Cyber Risk and Cost Model. | CS, CAF, FC |
| Individual council digital data | Data related to LDF and FC projects and/or initiatives gathered to identify impacts across interventions. This will include financial data to demonstrate, for example, cost and time savings, service delivery data that illustrates resident benefits. | LDF, FC |
| Project documentation | Documents such as benefit and business cases, end-of-project reports, project updates, used to understand the impact of LDF and FC funded projects and/or initiatives. | LDF, FC |
| Workstream documentation | Official documents specifying the amounts disbursed through the workstreams. | All |
| Procurement and spend data | Publicly available contract and spend data gathered to validate council-reported procurement information. Sources include individual council contract registers, and procurement databases such as Tussell. | LDF, FC |
| Software vendor data | Public data regarding local government software vendors used to understand the impact of LDF and FC projects and/or initiatives. Data will be gathered through procurement data bases, as well as using methods such as Mystery Shopping. | LDF, FC |
| Survey data | Data from our Agile Training and Digital and Cyber Maturity surveys to gather information on relevant council expenditure to ascertain the willingness to pay for the benefits provided by the workstreams. | All |
| Desk Research | Desk research to understand the costs of market alternatives for the solutions that the workstreams provide. Where necessary, we will acquire quotes on costs from either vendors or local authorities that have employed their services in the past. | All |

# 6. Evaluation limitations

## 6.1. Introduction

6.1.1. The detailed discussion of the Theories of Change, including their limitations and underlying assumptions, as well as the proposed methods we intend to use across workstreams, allow us to take stock of how likely we think it is for the evaluation to be successful. We consider that a successful evaluation may be defined as one that produces comprehensive, robust, and reliable results that allow for substantive interpretation and conclusions.

6.1.2. We first go over the likelihood of the overall programme evaluation succeeding before detailing some considerations on the Process, Impact, and Economic Evaluations. The latter are mainly aimed at understanding caveats for the evaluation of the individual workstreams, as those will inform the case study approach, we will leverage to present the programme-level evaluation.

## 6.2. Programme evaluation

6.2.1. As has been established in the prior chapters, the overall evaluation of the Local Digital programme relies on the approach of developing case studies of what worked for different types of councils through analysis of case studies, which draws from the results of analysing the 5 individual workstreams. However, while individual Process, Impact, and Economic Evaluations will be carried out across all individual workstreams, translating the corresponding evaluation results to the overall programme's success is not necessarily straightforward.

6.2.2. Such complexities may either be acknowledged through configurational approaches, for example, qualitative comparative analysis, or other qualitative techniques that are specifically designed to differentiate between different types of treatment recipients and to uncover nuances and interdependencies.

6.2.3. Based on the available data, and the complexity of the desired outcome of the Local Digital programme - contributing to a new paradigm across the English local government sector - we opt for the latter approach. Specifically, we will establish a typology of different organisations, which allows us to integrate findings across workstreams through case studies, and thus relate them to the tripartite definition of the new paradigm: System-level readiness, organisational readiness, and individual readiness.

6.2.4. A major advantage of the case study approach is that concerns about sample sizes, which afflict the workstream-level statistical analysis, are less pronounced. Rather, the case studies will not rely solely on such statistical analysis (whether it is robust or not) but will reflect the balance of the various types of evidence.

6.2.5. The council typology framework will be an iterative process, with the opportunity to differentiate between councils further. This will provide further nuances in understanding the extent to which - and under what circumstances - the Local Digital programme can be considered a success for different types of organisations.

6.2.6. Given the iterative nature and the broad data sources informing the programme-level evaluation, we foresee no major issues with our evaluation approach. However, due to the qualitative nature of the case study perspective we are offering and the complexity of the desired outcomes of the programmes, we anticipate that the case studies will not offer quantitative estimates of the impact of the programme. Quantitative estimates will be provided at the level of the individual workstreams, which together form subcomponents of the programme's success or otherwise.

## 6.3. Process Evaluation

6.3.1. The Process Evaluation of the Local Digital programme's workstreams rests largely on conducted interviews and thus qualitative data. Where feasible, quantitative data is used to supplement our findings, largely relying on descriptive measures of council attributes. In very few cases, additional statistical analysis is conducted, for example using logistic regression to understand the characteristics of councils that received funding through the Local Digital Fund and Future Councils.

6.3.2. The activities relating to the Process Evaluation will be carried out first. While the data we collect for the impact and Economic Evaluations are not strictly distinct from the data collected for the Process Evaluation, the early time point at which we collect the Process Evaluation data means that it is less likely that unforeseen circumstances towards the end of the evaluation can jeopardise data collection efforts. Instead, the data collection for the Process Evaluation will be completed early in the overall evaluation timeline.

6.3.3. Finally, the qualitative approaches used for the Process Evaluation are not subject to statistical caveats (such as a lack in statistical power) and are similarly less prone to other delivery challenges (such as a lack of buy-in or changing respondents). Taking all these considerations into account, we can conclude that the Process Evaluation will likely be successful, and the research questions laid out by DLUHC will be answered sufficiently.

6.3.4. We do not foresee issues in refining the case study typology throughout the course of the Process Evaluation and identifying representative councils for each defined type as preliminary data suggests this is feasible.

## 6.4. Impact Evaluation

6.4.1. The methodological considerations we have laid out for the Impact Evaluation of the workstreams show that the approach rests largely on qualitative data, but also incorporates quantitative approaches where possible. For those parts of the Impact Evaluation resting on qualitative data, the same considerations as for the Process Evaluation apply, meaning we foresee no substantial challenges to data collection beyond the points that have been mentioned.

6.4.2. However, the quantitative approaches are subject to more restrictive limitations. This relates to both data collection and analysis. While we are actively working to facilitate council engagement and buy-in, low response rates, particularly in subsequent surveys, are a tangible risk. Additionally, council representatives answering surveys may differ between waves, thus introducing so-called within-variation in the responses, potentially violating the statistical assumptions of some of the discussed methods. Problems with data collection will be addressed and discussed in the interim evaluation reports, and interpretations may need to consequently be more restricted.

6.4.3. As the Impact Evaluation will focus on the case study approach, quantitative methods will be understood as supplementary. Thus, in cases where the statistical or data requirements for certain methods are not met, we will fall back on using the available data as descriptive.

6.4.4. Finally, we expect that the validity of certain data sources could be limited, in particular survey data. Notwithstanding the caveat that council representatives responding to the survey may change over time, it is unclear how knowledgeable the responses will be. For instance, survey questions asking council representatives to provide approximate quantities in their responses will likely

generate very rough approximations. While this is potentially problematic in assessing the workstream's individually, it is mitigated through the case study lens, which aggregates the data sources and allows for more substantive interpretation.

6.4.5. In conclusion, we envisage that most of the research questions in the Impact Evaluation can be answered through a combination of qualitative and quantitative approaches. However, conclusions are likely to be dependent on triangulating qualitative and quantitative findings.

## 6.5. Economic Evaluation

6.5.1. The final evaluation strand of the Local Digital programme evaluation is the Economic Evaluation. According to the Magenta Book (HM Treasury, 2020), the interpretation of the Economic Evaluation is dependent on the net effect estimated through the Impact Evaluation. If such an effect is missing or not robust, which we consider to be a tangible risk, the Economic Evaluation will have to rest on theory-based impact.

6.5.2. Our Economic Evaluation approaches span a wide range, with some focusing on understanding the costs and benefits of individual activities and others, such as the Cyber Cost and Cyber Risk model, providing tools for future use and policy design.

6.5.3. In summary, we ascertain that the approaches we have laid out for the Economic Evaluation will be feasible to successfully produce comprehensive answers to the research questions. However, some considerations apply. First, it may prove challenging to access sufficient objective data. Second, we expect to exclude longer-term outcomes and potential externalities from the VfM assessment, as the causal chain is likely to become more convoluted and monetising them difficult.

# 7. Conclusion and next steps

7.1.1. This Scoping Study lays out the Theories of Change for the Local Digital programme, challenges their assumptions and subsequently proposes methodological approaches to perform the Process, Impact, and Economic Evaluation of the Local Digital programme. It discusses how confident we are in answering the research questions for the overall Local Digital programme, as well as for the individual component workstreams.

7.1.2. Acknowledging the complexity of the programme's interconnectedness, we propose to interpret and present large parts of the overall findings in the final evaluation through a case study framework showing the impacts on the different types of participating organisations. Presenting the evaluation in such a fashion will not only account for the interdependencies and complementarities between workstreams, but also for the complexity of the local government sector, recognising that different types of councils are likely to experience and engage with interventions in different ways.

7.1.3. Based on our theoretical arguments, identified data sources and methodological approaches, we conclude that we are confident that most research questions can be answered, albeit relying on qualitative research in some parts. The initial scoping and evaluation activities carried out so far also indicate that this assessment is likely to hold, and we have produced meaningful interim evidence that can support our findings.

7.1.4. We also note that there is a large amount of sector support for this evaluation. In our engagement with councils, government departments, and others to date, many stakeholders have noted that there is a lack of robust evidence about past and ongoing council digitalisation programmes. It is our hope that this evaluation can contribute to providing such an evidence base.

7.1.5. It is also our hope that the findings from our evaluation can be directly applied by DLUHC, councils and wider stakeholders to improve the design and implementation of digital and cyber programmes going forward. This can also help to ensure that projects and programmes led by some councils can be more effectively shared and scaled across the sector, supported by a richer and more robust evidence base. This is another reason, in addition to those described throughout this report, why regular and meaningful engagement with the council sector is critical to the ultimate success and ambition of this evaluation.

# 8. References


Abrahamson, E., & Rosenkopf, L. (1997). Social Ne2rk Effects on the Extent of Innovation Diffusion: A Computer Simulation. Organization Science, 8(3), 289–309. Retrieved from: http://www.jstor.org/stable/2635149

Amankwah-Amoah, J., Khan, Z., Wood, G., & Knight, G. (2021). COVID-19 and digitalization: The great acceleration. Journal of Business Research, 136, 602–611. https://doi.org/10.1016/j.jbusres.2021.08.011

Bloomberg, J. (2018). Digitization, digitalization, and digital transformation: confuse them at your peril. Forbes. Retrieved from: https://www.forbes.com/sites/jasonbloomberg/2018/04/29/digitization-digitalization-and-digital-transformation-confuse-them-at-your-peril/

Burt, R. S. (1987). Social Contagion and Innovation: Cohesion versus Structural Equivalence. American Journal of Sociology, 92(6), 1287–1335. https://doi.org/10.1086/228667

Central Digital and Data Office. (2022). Transforming for a digital future: 2022 to 2025 roadmap for digital and data - updated September 2023. GOV.UK. Retrieved from: https://www.gov.uk/government/publications/roadmap-for-digital-and-data-2022-to-2025/transforming-for-a-digital-future-2022-to-2025-roadmap-for-digital-and-data#contents

Delahais, T., & Toulemonde, J. (2012). Applying contribution analysis: Lessons from 5 years of practice. Evaluation, 18(3), 281-293. https://doi.org/10.1177/1356389012450810

Department for Levelling Up, Housing and Communities (2022). DLUHC evaluation strategy. GOV.UK. Retrieved from: https://www.gov.uk/government/publications/dluhc-evaluation-strategy/dluhc-evaluation-strategy

Eisenhardt, K. M. (1989). Building theories from case study research. Academy of management review, 14(4), 532-550. https://doi.org/10.2307/258557

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. Academy of management journal, 50(1), 25-32. https://doi.org/10.5465/amj.2007.24160888

Eisenhardt, K. M., and Jeffrey A. Martin (2000). Dynamic Capabilities: What Are They? Strategic Management Journal, vol. 21, no. 10/11, 2000, pp. 1105–21. JSTOR. Retrieved from: http://www.jstor.org/stable/3094429

Gong, C., and Ribière, V. (2021). Developing a Unified Definition of Digital Transformation. Technovation, 102, 102217. https://doi.org/10.1016/j.technovation.2020.102217

Government Digital Service (2023). Service Manual. GOV.UK. Retrieved from: https://www.gov.uk/service-manual

Health and Social Care Select Committee (2023). Digital transformation in the NHS. Retrieved from: https://publications.parliament.uk/pa/cm5803/cmselect/cmhealth/223/report.html

HM Treasury. (2020). Magenta Book. Gov.uk. Retrieved from: https://www.gov.uk/government/publications/the-magenta-book

Holt, D. T., and Vardaman, J. M. (2013). Toward a comprehensive understanding of readiness for change: the case for an expanded conceptualization. Journal of Change Management, 13(1), 9–18. https://doi.org/10.1080/14697017.2013.768426

House of Lords (2020). A critical juncture for public services: lessons from COVID-19. UK Parliament. Retrieved from: https://publications.parliament.uk/pa/ld5801/ldselect/pubserv/167/16704.htm

Ketkar, H. and Workiewicz, M. (2021). Power to the people: The benefits and limits of employee self-selection in organisations. Strategic management journal. https://doi.org/10.1002/smj.3349

Kwon, S.-W. et al. (2020). Ne2rk brokerage: An integrative review and future research agenda. Journal of management, 46(6), pp. 1092–1120. https://doi.org/10.1177/01492063209146

Lefebvre, V. M. et al. (2016). Social capital and knowledge sharing performance of learning ne2rks. International journal of information management, 36(4), pp. 570–579. https://doi.org/10.1016/j.ijinfomgt.2015.11.008

Local Digital (2018). The Local Digital Declaration. Retrieved from: https://media.localdigital.gov.uk/uploads/2023/03/30170447/Local-Digital-Declaration.pdf

Local Digital (2022). About us. Retrieved from: https://www.localdigital.gov.uk/about/

Local Digital (2023) Supporting the development of transformative leaders within local government. DLUHC Digital Blog. Retrieved from: https://dluhcdigital.blog.gov.uk/2023/03/22/supporting-the-development-of-transformative-leaders-within-local-government/

Local Government Association (2022). The local government digitalisation almanac: a simple guide for local councils. Retrieved from: https://www.local.gov.uk/our-support/cyber-digital-and-technology/almanac

Marshall, M. N. (1996). Sampling for qualitative research. Family practice, 13(6), 522-526. https://doi.org/10.1093/fampra/13.6.522

Mayne, J. (2012). Contribution analysis: Coming of age? Evaluation, 18(3), 270-280. https://doi.org/10.1177/1356389012451663

Mayne, J. (2019). Revisiting contribution analysis. Canadian Journal of Program Evaluation, 34(2), 171-191. https://doi.org/10.3138/cjpe.68004

Mergel, I., Edelmann, N., & Haug, N. (2019). Defining digital transformation: Results from expert interviews. Government Information Quarterly, 36(4), 101385. https://doi.org/10.1016/j.giq.2019.06.002

Ministry of Housing, Communities and Local Government (2018). Local Digital Fund Prospectus. Retrieved from: https://assets.publishing.service.gov.uk/media/5bc45b4c40f0b63857057c15/Fund_Prospectus.pdf

National Audit Office (2021). The challenges in implementing digital change. Retrieved from: https://www.nao.org.uk/insights/the-challenges-in-implementing-digital-change/

Pittaway, J. J. and Montazemi, A. R. (2020). Know-how to lead digital transformation: The case of local governments. Government information quarterly, 37(4), p. 101474. https://doi.org/10.1016/j.giq.2020.101474

St George's House, et. al (2022). Resilient people, communities, and places. Socitm. Retrieved from: https://socitm.net/resource-hub/socitm-research/resilient-people-communities-and-places/

Teece, David J., et al. (1997). Dynamic Capabilities and Strategic Management. Strategic Management Journal, vol. 18, no. 7, 1997, pp. 509–33. JSTOR, http://www.jstor.org/stable/3088148

Uren, V., and Edwards, J. S. (2023). Technology readiness and the organisational journey towards AI adoption: An empirical study. International Journal of Information Management, 68, 102588. https://doi.org/10.1016/j.ijinfomgt.2022.102588

Verhoef, P. C., Broekhuizen, T., Bart, Y., Bhattacharya, A., Dong, J. Q., Fabian, N. E., & Haenlein, M. (2021). Digital transformation: A multidisciplinary reflection and research agenda. Journal of Business Research, 122, 889–901. https://doi.org/10.1016/j.jbusres.2019.09.022

Young, H. P. (2009). Innovation Diffusion in Heterogeneous Populations: Contagion, Social Influence, and Social Learning. The American Economic Review, 99(5), 1899–1924. http://www.jstor.org/stable/25592541

# 9. Appendix

## 9.1. Outcome areas

9.1.1. This appendix contains the list of Local Digital programme outcome areas, specifying the alignment of each area with corresponding outcomes from individual workstreams and their correlation with the 3 fundamental tenets of digital transformation.

9.1.2. **Outcome area 1. Councils invest in the exploration and adoption of innovative digital solutions.** This outcome consolidates the following outcomes from individual workstreams:

- New digital solutions are deployed / implemented / adopted in a council setting (Local Digital Fund, System Readiness)
- New software solutions lead to councils moving away from legacy technology (Local Digital Fund, System Readiness)
- Project findings lead to new digital transformation projects (Local Digital Fund, Organisational Readiness)
- Investment in digital transformation increases (Local Digital Fund, Organisational Readiness)
- Pilot councils implement recommendations to address prioritised local challenges (Future Councils, Organisational Readiness)
- Councils acquire more modern and resilient technology systems (Future Councils, System Readiness)
- Senior leaders prioritise digital transformation programmes and identify new initiative opportunities (Training, Organisational Readiness)
- Senior leaders play a key role in leading and delivering digital transformation programmes (Training, Organisational Readiness)

9.1.3. **Outcome area 2. New digital solutions and initiatives lead to improved outcomes for staff and residents.** This outcome consolidates the following outcomes from individual workstreams:

- New digital solutions lead to better staff and resident outcomes (Local Digital Fund, System Readiness)
- New digital solutions lead to better staff and resident outcomes across the sector (Local Digital Fund, System Readiness)

- Tackling challenges leads to cost reductions and better resident outcomes (Future Councils, System Readiness)

9.1.4. **Outcome area 3. New digital solutions and initiatives lead to cost savings.** This outcome consolidates the following outcomes from individual workstreams:

- New software solutions lead to licence and maintenance cost savings (Local Digital Fund, System Readiness)
- New digital solutions lead to time and cost process efficiency savings (Local Digital Fund, System Readiness)
- New software solutions lead to system cost savings across the sector (Local Digital Fund, System Readiness)
- New digital solutions lead to time and cost process efficiency savings across the sector (Local Digital Fund, System Readiness)
- Tackling challenges leads to cost reductions and better resident outcomes (Future Councils, System Readiness)

9.1.5. **Outcome area 4. Local government software market offers better value-for-money.** This outcome consolidates the following outcomes from individual workstreams:

- Quality of local government software solutions in the market improves (Local Digital Fund, System Readiness)
- Interoperability increases across the sector (Local Digital Fund, System Readiness)
- Local government software market competition increases (Local Digital Fund, System Readiness)
- New data standards are adopted across local government software vendors (Local Digital Fund, System Readiness)
- New digital solutions are adopted by a software vendor (Local Digital Fund, System Readiness)

9.1.6. **Outcome area 5. Councils improve digital and cyber skills and ways of working.** This outcome consolidates the following outcomes from individual workstreams:

- Council staff enrol and participate in available digital skills training (Training, Individual Readiness)

- Participation in digital skills training increases across councils (Training, Individual Readiness)
- Council staff increase knowledge of subject matter covered in training programme (Training, Individual Readiness)
- Council staff take up opportunities to deploy new skills within their council in a project setting (Training, Individual Readiness)
- Project teams develop agile skills (Local Digital Fund, Individual Readiness)
- Project teams share and apply agile learnings across their councils (Local Digital Fund, Organisational Readiness)
- Adoption of agile and collaborative ways of working increases across the sector (Local Digital Fund, Organisational Readiness)
- Councils adopt more modern ways of working and delivery methods (Future Councils, Organisational Readiness)
- Councils improve their overall digital and cyber maturity (Future Councils, Organisational Readiness)

9.1.7. **Outcome area 6. Councils collaborate on digital and cyber projects more effectively.** This outcome consolidates the following outcomes from individual workstreams:

- Council staff share learnings from training session with colleagues across organisation (Training, Individual Readiness)
- Project outputs are shared within lead and partner councils and across the sector (Local Digital Fund, Organisational Readiness)
- Project teams share and apply collaborate ways of working across their councils (Local Digital Fund, Organisational Readiness)
- Interest in developed outputs emerges across the sector (Local Digital Fund, Organisational Readiness)
- Economies of scale are realised (Local Digital Fund, Organisational Readiness)
- New software and data processes are scaled across councils (Local Digital Fund, System Readiness)
- New digital solutions are tested and validated across lead and partner councils (Local Digital Fund, System Readiness)
- Some councils engage in shared forums around replicable pathways to unlock digital and cyber change (Future Councils, Organisational Readiness)
- Councils widely engage in forums about replicable pathways that can unblock digital and cyber change (Future Councils, Organisational Readiness)
- Broad consensus on replicable pathways that can unblock cyber and digital change across the sector (Future Councils, Organisational Readiness)
- Replicable pathways are adopted across the council sector (Future Councils, Organisational Readiness)

- Councils adopt more modern and resilient data sharing approaches (Future Councils, Organisational Readiness)

9.1.8. **Outcome area 7. The local government sector develops a clearer understanding of common digital and cyber challenges.** This outcome consolidates the following outcomes from individual workstreams:

- Clear understanding of the organisation-wide factors that block digital and cyber change (Future Councils, Organisational Readiness)
- Pilot evidence is used to inform digital and cyber policymaking and interventions (Future Councils, Organisational Readiness)
- DLUHC develops deeper understanding of council cyber needs and priorities (Cyber Assessment Framework, Organisational Readiness)
- DLUHC successfully identifies local government guidance and support requirements for CAF adoption (Cyber Assessment Framework, Organisational Readiness)
- Local Government CAF is successfully rolled out and consistently adopted across the sector (Cyber Assessment Framework, Organisational Readiness)

9.1.9. **Outcome area 8. Councils develop more effective cyber risk and mitigation approaches.** This outcome consolidates the following outcomes from individual workstreams:

- Councils identify where they have malware and ransomware risks, and have developed a treatment plan (Cyber Support Fund, Organisational Readiness)
- Councils reduce their malware and ransomware risks through execution of their treatment plan (Cyber Support Fund, Organisational Readiness)
- Councils improve their cyber resilience and reduce risk (Cyber Support Fund, Organisational Readiness)
- Councils understand their current cyber risk posture (Cyber Assessment Framework, Organisational Readiness)
- High-priority areas for cyber risk mitigation and improvements are identified (Cyber Assessment Framework, Organisational Readiness)
- Councils develop plans to improve their cyber posture and in the identified priority-areas (Cyber Assessment Framework, Organisational Readiness)
- Pilot councils make progress towards completing the Local Government Cyber Assessment Framework (Future Councils, Organisational Readiness)

9.1.10. **Outcome area 9. Councils develop more effective cyber response and recovery strategies.** This outcome consolidates the following outcomes from individual workstreams:

- Councils have identified deficiencies in malware and ransomware response and recovery, and have developed a treatment plan (Cyber Support Fund, Organisational Readiness)
- Councils improve their malware or ransomware response and recovery processes and test for effectiveness (Cyber Support Fund, Organisational Readiness)

## 9.2. Measuring outcome areas

9.2.1. This appendix outlines the outcome areas of the Local Digital programme, along with the metrics used for monitoring and measuring impact. For each outcome area, we will examine both metrics linked to intended workstream outcomes (as detailed in the previous appendix section) and those used to evaluate broader impact at the workstream and programme level.

9.2.2. **Outcome area 1. Councils invest in the exploration and adoption of innovative digital solutions.** To measure this outcome area, we will consider the number of projects funded by the Local Digital Fund, Future Councils, and Training workstreams, as well as their success rates. Separately, for all councils participating in the programme, we will gather data to capture metrics such as the following:

- **Year-on-year growth in council-initiated digital projects.** We will track and quantify the annual increase in the number of projects initiated by councils. Please refer to the clarifications section for an explanation of what constitutes a "digital project."

- **Year-on-year increase in digital project investment allocation.** We will assess the year-on-year growth in the financial investment allocated by councils to initiate digital projects. This metric will involve evaluating the overall cost incurred by the council for identified digital projects.

9.2.3. Data sources:

- In-depth interviews
- Council financial data requests
- Published council spend data (Tussell)

9.2.4. **Outcome area 2. New digital solutions and initiatives lead to improved outcomes for staff and residents.** To measure this outcome area, we will consider satisfaction data gathered from projects funded through the Local Digital Fund and Future Councils. Separately, for all councils participating in the programme, we will gather data to capture metrics such as the following:

- **Percentage of digital projects improving staff satisfaction.** We will collaborate with councils to understand the extent to which digital projects have led to staff satisfaction.

- **Percentage of digital projects improving resident satisfaction.** We will collaborate with councils to understand the extent to which digital projects have led to resident satisfaction.

9.2.5. Data sources:

- In-depth interviews
- Council project data requests

9.2.6. **Outcome area 3. New digital solutions and initiatives lead to cost savings.** To measure this outcome area, we will consider cost savings data gathered from projects funded through the Local Digital Fund and Future Councils. Separately, for all councils participating in the programme, we will gather data to capture metrics such as the following:

- **Percentage of digital projects leading to cost savings and the extent of cost savings where feasible.** We will collaborate with councils to understand the extent to which digital projects have led to cost savings. These might include both (1) system cost savings, that is costs related to contracts, licences, and maintenance, and (2) efficiency cost savings, that is those related to aspects such as process optimisation and time savings.

9.2.7. Data sources:

- In-depth interviews
- Council project data requests

9.2.8. **Outcome area 4. Local government software market offers better value-for-money**. To measure this outcome area, we will examine the number of projects funded by the Local Digital Fund and Future Councils that have influenced the local government software market. This assessment encompasses projects that have introduced data standards adopted by the market, as well as those that have developed new software components. Separately, for all councils participating in the programme, we will gather data to capture metrics such as the following:

- **Percentage of digital projects that have resulted in the adoption of data standards across the local government software market**. We will measure the percentage of software systems in the local government market that have adopted data standards developed through digital projects.

- **Percentage of digital projects that have resulted in the publication of outputs under open-source licences.** We will track how many councils publish digital project outputs under open-source or local software licences.

9.2.9. Data sources:

- In-depth interviews
- Council project data requests

9.2.10. **Outcome area 5. Councils improve digital and cyber skills and ways of working**. To measure this outcome area, we will examine the number of staff participating in the Training workstream that self-report having increased their understanding and application of agile methodologies in digital projects. We will also capture the number of councils that report having implemented GDS and agile best practices following their participation in Future Councils and the Local Digital Fund. Separately, for all councils participating in the programme, we will gather data to capture metrics such as the following:

- **Percentage increase in investment and participation in digital and cyber skills training.** This evaluation will track the yearly rise in the percentage of financial investment allocated to digital and cyber training by the council, as well as participation levels.

- **Percentage of digital projects implementing GDS best practice.** We will identify the percentage of digital projects initiated by councils that implement Government Digital Service (GDS) guidance.

9.2.11. Data sources:

- In-depth interviews
- Digital and Cyber Maturity survey
- Council financial and operational data requests

9.2.12. **Outcome area 6**. Councils collaborate on digital and cyber projects more effectively. To measure this outcome area, we will examine the number of councils across the Local Digital Fund, Future Councils, and Training that report having shared programme learnings within the council. We will also look at the scalability of Local Digital Fund and Future Councils projects, as well as council sharing of project outputs in cross-sector forums. Separately, for all councils participating in the programme, we will gather data to capture metrics such as the following:

- **Percentage of digital projects where councils have collaborated with other councils.** We will identify the percentage of digital projects initiated by councils that have been codelivered with other councils.

- **Percentage of digital project outputs that have been shared and implemented in other councils.** We will identify the percentage of project outputs that have been utilised by other councils.

9.2.13. Data sources:

- In-depth interviews
- Council project data requests

9.2.14. **Outcome area 7**. The local government sector develops a clearer understanding of common digital and cyber challenges. To measure this outcome area, we will explore the extent to which DLUHC has contributed to increasing both internal and external understanding of local government sector digital and cyber challenges through the Future Councils and CAF workstreams. Separately, for all councils participating in the programme, we will gather data to capture metrics such as the following:

- **Overall increase in council satisfaction with DLUHC's support with regards to digital and cyber challenges.** We will seek to assess the extent to which councils believe that the DLUHC has a good understanding of digital and cyber challenges faced by the sector, and a favourable view of the Local Digital programme interventions.

- **Number of councils that have developed a Digital and Cyber Strategy following the Local Digital programme.** We will count the number of

councils that have formulated a Digital and Cyber Strategy as a direct result of their participation in the Local Digital programme.

9.2.15. Data sources:

- In-depth interviews
- Council websites

9.2.16. **Outcome area 8**. Councils develop more effective cyber risk and mitigation approaches. To assess this outcome area, we will investigate the degree to which involvement in Cyber Support and CAF has led councils to develop a deeper understanding of high-priority areas for cyber risk and to implement effective risk mitigation strategies. Separately, for all councils participating in the programme, we will gather data to capture metrics such as the following:

- **Number of councils with a clear risk mitigation plan.** We will measure the number of councils that possess a clear understanding of high-priority areas for cyber risk mitigation and have a defined plan to address these areas.

9.2.17. Data sources:

- In-depth interviews
- MMR survey results
- Digital and Cyber Maturity survey

9.2.18. **Outcome area 9**. Councils develop more effective cyber response and recovery strategies. To assess this outcome area, we will investigate the degree to which involvement in Cyber Support and CAF has led councils to develop a deeper understanding of high-priority areas for cyber risk and to implement effective response and recovery strategies. Separately, for all councils participating in the programme, we will gather data to capture metrics such as the following:

- **Number of councils with an incident response plan.** We will quantify the number of councils that have developed an incident response plan that includes procedures for responding to malware and ransomware attacks.

9.2.19. Data sources:

- In-depth interviews
- MMR survey results

## Clarification notes

9.2.20. **Definition of digital projects.** (Relevant to outcome areas 1, 2, 3, and 4)**.** Note that digital projects are defined as those that seek to improve internal or external council processes using technology and/or data. This does not include the renewal of existing software licences, or the purchase of like-for-like software tools to replace existing ones. It includes initiatives related to data usage,

development or implementation of new software systems or/and components, and development or implementation of data standards.

9.2.21. **Definition of satisfaction.** (Relevant to outcome area 2). In cases where historical satisfaction data is not directly available, we will explore the use of proxy metrics. These may include indicators such as increased usage of outputs compared to previous solutions or self-reported accounts from staff and residents indicating heightened satisfaction. Note that satisfaction itself is being used as a proxy metric for “better outcomes”. Projects are expected to result in a wide variety of benefits that cannot be aggregated and can only be quantified on a project-by-project basis.

## 9.3. Research questions

9.3.1. At the beginning of the evaluation, DLUHC shared several research questions that the evaluation will aim to answer. These questions are based on guidance relating to project evaluation in the Magenta Book (HM Treasury, 2020) and in DLUHC’s Evaluation Strategy (DLUHC, 2022).

9.3.2. These research questions will function as the critical overarching questions that the evaluation will focus on, and will be divided into Process, Impact and Economic Evaluation questions. We have listed these original questions in Tables 1 to 4, labelled according to process (P1-P10), impact (I1-I10), and economic (E1-E8) evaluation.

9.3.3. For the purposes of this Scoping Study, we have included additional information to these research questions to make them more specific and targeted. For each research question, we have included key considerations, which function effectively as sub-questions to help to answer the wider research question. This is because, on their own, the research questions are designed to be sufficiently broad and generic to be applicable to multiple project evaluations. As such, we have designed more specific considerations that can enable the evaluation team and DLUHC to put these broad research questions into practice in the context of the Local Digital programme. Note that these considerations are not exhaustive and additional ones might emerge during the evaluation. For each of these considerations, we have also included the workstreams that they are relevant to.

9.3.4. To tie these research questions to the Theories of Change presented in the previous chapter, the Process Evaluation questions generally relate to the Inputs and Activities of the Theory of Change models, while the impact and Economic

Evaluation questions generally relate to the Intermediate and Long-term Outcomes, and the Impact. By measuring the outcomes we have defined in the Theory of Change, we will be able to answer the impact and Economic Evaluation questions laid out next.

## Process Evaluation

9.3.5. As defined in DLUHC's Evaluation Strategy, the Process Evaluation research questions "assess activities and implementation and help us learn from how an intervention was delivered". These include questions about the resources and delivery plan associated with the workstreams, as well as unexpected or unintended factors. One notable feature of our Process Evaluation is to assess the recipients of projects and the types of projects being funded: to assess whether funding has been effectively and appropriately apportioned to different councils, and to test for duplication or misalignment between projects being funded.

9.3.6. We list below the different Process Evaluation research questions, as well as key considerations, and which workstreams these considerations apply to indicated in brackets. Abbreviations: LDF = Local Digital Fund, FC = Future Councils, CS = Cyber Support, CAF = Cyber Assessment Framework.

9.3.7. **P1: Were there enough resources?** Key considerations:

- Was the overall funding sufficient for DLUHC staff to deliver workstream activities? (All)
- Was the overall funding and support sufficient for councils to execute workstream activities? (FC, LDF, CS, CAF)
- Was the overall funding sufficient for councils to procure third party companies when needed? (FC, LDF, CS, CAF)

9.3.8. **P2: Were there any unexpected or unintended issues in the delivery of the intervention?** Key considerations:

- Were all workstreams activities delivered according to the timelines set? (All)
- Were there any unforeseen challenges in the delivery of workstream activities? (All)

9.3.9. **P3: To what extent has the intervention reached all the councils that it was intended to reach?** Key considerations:

- What is the regional representation across councils that have applied and been selected for each workstream? (All)
- What is the council-type representation across councils that have applied and been selected for each workstream? (All)
- What is the economic representation across councils that have applied and been selected for each workstream? (All)
- To what extent is the Local Digital Declaration an effective tool for council selection? (LDF, FC)
- To what extent is the MMR an effective tool for council selection? (CS)

9.3.10. **P4: To what extent has the project created a collaborative community? Is the community active and engaged?** Key considerations:

- What are the levels of participation in collaborative workstream activities? (LDF, FC, CS)
- How and to what extent did councils collaborate in the execution of workstream activities? (LDF, FC, CS, CAF)
- To what extent have councils continued to collaborate post-intervention? (LDF, FC, CS, CAF)

9.3.11. **P5: To what extent has the process built leadership, partnerships, and/or capability in councils?** Key considerations:

- To what extent have council staff involved in the execution of workstream activities developed agile and digital delivery skills? (LDF, FC, Training)
- To what extent have council staff involved in the execution of workstream activities developed cyber security skills? (CS, CAF)
- To what extent has participation in workstream activities led to an increase in overall council digital and cyber maturity? (LDF, FC)
- How and to what extent did council leadership engage in the interventions? (All)
- To what extent have project delivery partnerships been successful in the execution of workstream activities? (LDF)
- To what extent has the workstream contributed to creating partnerships across councils? (FC, LDF)

9.3.12. **P6: To what extent have the economic growth challenges in priority places been addressed?** Key considerations:

- To what extent have the workstreams contributed to levelling-up differences across councils? (All)
- To what extent have the workstreams contributed to support priority service areas for councils? (FC, LDF)
- To what extent have the workstreams addressed councils at greatest risk and cost of cyber security attacks? (CS)

9.3.13. **P7: What worked well, or less well, for whom, and why?** Key considerations:

- What is DLUHC staff satisfaction with the delivery of workstream activities? (All)
- What is council satisfaction with the application processes? (All)
- What is council satisfaction with the support and resources provided? (All)

9.3.14. **P8: What can be learned from the delivery methods used? Could the intervention have been procured and delivered for less cost than it was?** Key considerations:

- What delivery methods were used across each of the workstreams? (All)
- What resources were employed to deliver workstream activities? (All)
- To what extent was the selection of funded projects effective? (LDF)

9.3.15. **P9: How did external factors influence the delivery and functioning of interventions?** Key considerations:

- Were there any policy or regulation changes that influenced the delivery of workstream activities? (LDF, FC, CS, CAF)
- Were there any council organisational changes that influenced execution of workstream activities? (LDF, FC, CS, CAF)
- Were there any software and hardware changes that influenced the execution of workstream activities? (LDF, FC, CS, CAF)
- Were there any other factors that influenced the delivery and execution of workstream activities? (LDF, FC, CS, CAF)

9.3.16. **P10: How did the delivery partners influence implementing the interventions?** Key considerations:

- What role did third party organisations play in the delivery of workstream activities? (LDF, FC, CS, Training)
- What was the experience of DLUHC staff working with third party organisations? (LDF, FC, CS, Training)
- What role did third party organisations play in the execution of workstream activities within councils? (LDF, FC, CS, CAF)
- To what extent did the involvement of third-party organisations influence workstream outcomes? (LDF, FC, CS, CAF)

## Impact Evaluation

9.3.17. As defined in DLUHC's Evaluation Strategy, the Impact Evaluation research questions "assess the change in outcomes directly attributable to an intervention and help us learn the difference an intervention has made". Generally, in order to answer these research questions, we will collect data against the outcomes defined in the overall Local Digital programme and workstream Theories of Change and conduct additional analysis to ascertain the attributable impact of the evaluation.

9.3.18. We list below the different Impact Evaluation research questions, as well as key considerations, and which workstreams these considerations apply to indicated in brackets. Abbreviations: LDF = Local Digital Fund, FC = Future Councils, CS = Cyber Support, CAF = Cyber Assessment Framework.

9.3.19. **I1: Did the intervention achieve the expected outcomes, and to what extent?** Key considerations:

- Did the intervention lead to an overall increase in digital maturity across councils? (FC, LDF, Training)
- Did the intervention lead to the development of scaled digital transformation projects / outputs across the council sector? (LDF, FC)
- Did the intervention lead to an overall increase in cyber maturity across councils? (CS, CAF, FC)

9.3.20. **I2 and I3: To what extent can the outcomes be attributed to the intervention? To what extent did the intervention cause the observed changes?** Key considerations:

- Did the councils receive any additional funding that could have contributed towards the intervention outcomes? (All)
- Were there any policy or organisational shifts that contributed towards the intervention outcomes? (All)
- Were there any IT system changes within the council that contributed towards the intervention outcomes? (LDF, FC, CS)

9.3.21. **I4: What causal factors resulted in the observed impacts?** Key considerations:

- What specific components of the workstream intervention are most closely linked to the changes? (All)
- Is there a relationship between funding rounds, and the observed impacts across councils? (LDF)
- Is there a relationship between cohorts, and the observed impacts across councils? (CS)

9.3.22. **I5 and I6: What would have happened without the programme? Did the intervention cause a difference?** Key considerations:

- Would councils have tackled the identified challenges and sought to improve their digital maturity had they not received funding? If so, how? (LDF, FC, Training)
- Would councils have seeked to improve their resilience and preparedness to malware and ransomware attacks had they not received funding? If so, how? (CS)
- Would councils have used other frameworks to conduct cyber assessments? If so, which ones? (CAF)

9.3.23. **I7 and I9: Have the outcomes been influenced by any other external factors? How much can be attributed to external factors?** Key considerations:

- To what extent were external factors such council organisational changes or internal funding responsible for the outcomes? (All)
- To what extent were external factors such as council IT systems responsible for the outcomes? (CS, FC, LDF)

- To what extent were external factors such as policy or regulation changes responsible for the outcomes? (All)

9.3.24. **I8: Has the project resulted in any unintended outcomes (not related to the delivery)?** Key considerations:

- What unforeseen consequences or unanticipated benefits have emerged from the intervention? (All)
- Has the workstream's application process resulted in the strengthening of inequalities regarding digital maturity across councils? (LDF, FC, Training)
- Has the workstream intervention resulted in the duplication and further fragmentation of digital solutions across councils? (LDF, FC)
- Has the intervention resulted in councils disregarding cyber security factors in their cyber security strategy other than malware and ransomware? (CS)
- Has the intervention led to duplicating cyber assessment efforts across councils? (CAF)

9.3.25. **I10: To what extent have different groups been impacted in different ways, how, and why?** Key considerations:

- Is there a relationship between council characteristics (i.e., type, region, size, etc.) and the impacts observed? (All)
- To what extent did delivery partners across councils influence the impacts observed? (LDF, CS, FC, CAF)
- Is there a relationship between the councils' digital maturity and the impacts observed? (CS, FC, LDF)

## Economic Evaluation

9.3.26. As defined in DLUHC's Evaluation Strategy, the Economic Evaluation research questions "assess the benefits and costs of an intervention to understand whether it was a good use of resources". Generally, to answer these research questions, we will interpret the impacts defined in the Impact Evaluation questions in terms of specific monetisable costs and benefits.

9.3.27. We list below the different Economic Evaluation research questions, as well as key considerations, and which workstreams these considerations apply to indicated in brackets. Abbreviations: LDF = Local Digital Fund, FC = Future Councils, CS = Cyber Support, CAF = Cyber Assessment Framework.

9.3.28. **E1: What was the value-for-money of the intervention?** Key considerations:

- How efficiently have resources been allocated to achieve the intended outcomes in the context of value-for-money? (All)

9.3.29. **E2: What are the benefits?** Key considerations:

- What monetary and non-monetary benefits have resulted from the increase in digital and cyber maturity across the sector? (All)
- What system and process cost savings have resulted from the development and deployment of digital solutions across the sector? (LDF, FC)
- What non-monetary benefits to residents and council staff have resulted from the development and deployment of digital solutions across the sector? (LDF, FC)
- What cost and risk savings have resulted from improving malware and ransomware preparedness across the sector? (CS)
- What cost and risk savings have resulted from standardising cyber security assessments and treatment plans across the sector? (CS, CAF)

9.3.30. **E3: What are the costs?** Key considerations:

- What is the cost to DLUHC of delivering the workstream activities, including funding, staff, and supplier costs? (All)
- What are the staff costs to councils of participating in workstream engagement activities? (All)
- What are the total costs, including staff and supplier costs, to councils of executing workstream activities? What percentage of these costs are not covered by the funding provided? (All)
- Are there any ongoing costs associated with the maintenance of developed digital solutions post-intervention? (LDF, FC)
- Are there any ongoing costs associated with cyber security assessments and implementation of treatment plans? (CS, CAF)

9.3.31. **E4: Do the benefits outweigh the costs?** Key considerations:

- Does the cost-benefit analysis demonstrate whether the benefits exceed the costs? (All)
- What is the net benefit of the workstream intervention? (All)

9.3.32. **E5: What is the ratio of costs to benefits?** Key considerations:

- What is the cost-to-benefit ratio? (All)

- Does the cost-to-benefit ratio improve overtime due to the scaling of digital solutions? (LDF, FC)
- Does the cost-to-benefit ratio improve overtime due to the standardisation of cyber security treatment plan approaches? (CS, CAF)
- How does the ratio compare across workstream funding rounds / cohorts? And across similar workstream interventions (i.e., between LDF and FC)? (All)

9.3.33. **E6: How do these compare to alternatives?** Key considerations:

- Are there alternative solutions or interventions that could have been pursued? (All)
- How does the value-for-money analysis of the chosen intervention compare to these alternatives? (All)

## 9.4. Local Digital programme participation

9.4.1. This appendix offers an overview of councils that have received funding through the Local Digital programme, encompassing various council types and regions. This overview spans the overall programme, including the Local Digital Fund, Future Councils, and Cyber Support workstreams, all of which contributed funding. It serves as an initial snapshot of the programme's composition. Table 4 breaks down the councils participating in the Local Digital programme per council type.

**Table 4. Participating councils' distribution across council type.**

| Council type | Overall programme | Local Digital Fund | Future Councils | Cyber Support | Total number of English councils |
|---|---|---|---|---|---|
| County Council | 15 | 6 | 0 | 11 | 26 |
| District Council | 108 | 13 | 2 | 96 | 202 |
| London Borough | 24 | 11 | 1 | 20 | 32 |
| Metropolitan District | 25 | 11 | 1 | 21 | 36 |
| Unitary Authority | 41 | 11 | 4 | 35 | 63 |

9.4.2. Next, table 5 breaks down the councils participating in the Local Digital programme per region.

**Table 5. Participating councils' distribution across region.**

| Region | Overall programme | Local Digital Fund | Future Councils | Cyber Support | Total number of English councils |
|---|---|---|---|---|---|
| East | 23 | 3 | 2 | 22 | 43 |
| London and South East | 81 | 22 | 2 | 71 | 123 |
| Midlands | 48 | 6 | 1 | 44 | 82 |
| North East | 7 | 4 | 1 | 6 | 12 |
| North West | 27 | 9 | 0 | 20 | 42 |
| South West | 16 | 4 | 2 | 15 | 37 |
| Yorkshire and The Humber | 11 | 4 | 0 | 10 | 20 |

9.4.3. As can be seen, District Councils as well as councils from London and South East are the largest single categories of council that have participated in the programme. However, they are not necessarily over-represented: For instance, while District Councils make up 50.7% (108/213) of the overall share of participating councils, they are slightly under-represented relative to their share of the total number of councils, which is 56.27% (202/359).

9.4.4. But councils from London and South East are slightly overrepresented in the Local Digital programme, with 38.03% (81/213) of councils from that region participating and 34.26% (123/359) in the overall council population.

## 9.5. Further methodological details

### Mahalanobis Distance Matching

9.5.1. The formula to calculate the Mahalanobis Distance between 2 points is: D2=(x-m) T C-1 (x-m), where D2 is the square of the Mahalanobis distance, x is the vector of the observation, m is the vector of mean values of each column (which

represent the independent variables), and C-1 is the inverse covariance matrix of independent variables.

9.5.2. Essentially, the vector of the mean is multiplied by the inverse of the covariate matrix. The effect of this is, that, for highly correlated variables, the distance between them is effectively reduced. This effect is smaller for variables which are weakly correlated. Mahalanobis Distance Matching thus takes multivariate data structures into account for matching. It has been performed using the RStudio package matchit.

9.5.3. We performed such an analysis for the Local Digital Fund, with the result now serving as a robust counterfactual for the Difference-in-Difference analysis. The choice of attributes to include in the matching process was based on existing data, discussions with the client, theoretical relevance as well as availability. After multiple iterations, we decided on the following variables to match on for the initial matching exercise:

- **Population size.** Measured as the total number of inhabitants living in each council. The underlying assumption is that councils with higher populations also tend to have larger spending power and comparable spending priorities for their residents, as well as typically higher budgets.

- **Core Spending Power.** We used this budget indicator as a proxy indicator for the council spending on digital infrastructure and services. This approximation was chosen since higher quality data for digital spending per council is not widely available.

- **Multiple Deprivation Score.** This score is a weighted average score of multiple individual indices (for example Employment deprivation, Income deprivation, Education deprivation, etc.). It is a widely established measure of poverty in economic research. The rationale for its inclusion is that a similar score indicates a similar urgency for improvements of council services.

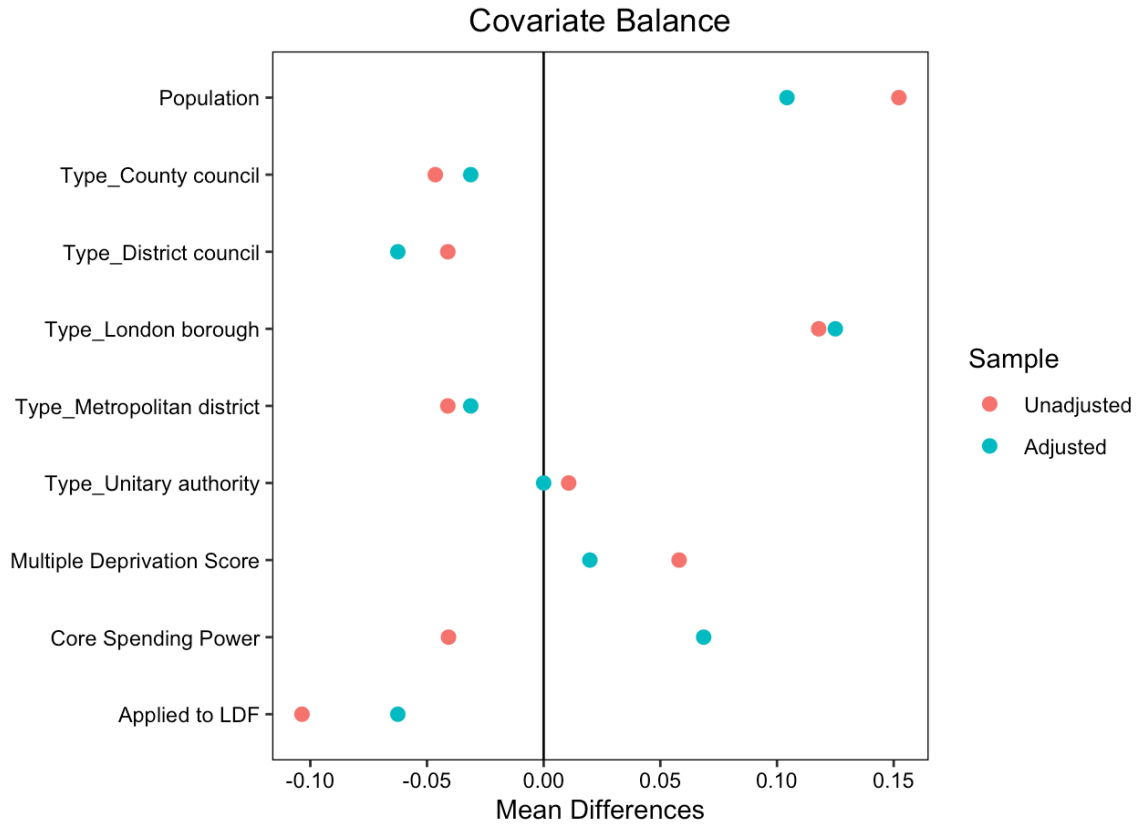
- **Region.** A categorical variable approximating softer factors such as cultural particularities or regional differences and preferences. Whereas matches on the prior 3 variables are based on similarity, here a good match would be indicated by being in the same category.

- **Council Type.** Finally, we included council type, as we assumed that councils of the same type tend to face similar challenges, have similar requirements, and potentially similar funding needs.

9.5.4. There were other attributes of councils that we considered, mainly those that we assumed would capture a council's motivation to be interested in the funding (or, in more technical terms: select into the treatment). These were being a signatory to the Local Digital declaration and having applied for funding through the Local Digital Fund. However, when attempting to identify multiple matches (precisely 4 per treated council), which we identified as necessary to deal with potentially poor survey response rates and panel attrition, the inclusion of these motivational factors was severely detrimental to the validity of the model. More specifically, when using Mahalanobis Distance Matching, a standardised mean difference is calculated for each variable. The conservative threshold for this value to be considered sufficient is 0.10, whereas the more lenient value is 0.25. Values for both being a signatory and having applied for funding were well above 1.0 each, while additionally increasing the values of other variables. We thus decided to leave them out in the initial matching.

9.5.5. Afterwards, we asked the treated councils and their identified matches to complete surveys. Based on the councils that completed these surveys, we performed an additional matching exercise that focused on including the motivational variable having applied for funding through the Local Digital Fund. While still resulting in values that are slightly higher than the lenient threshold of 0.25, we decided - together with the client - that the theoretical relevance of including a motivational variable was too important to leave out. Given the reduced overall sample size that the matching algorithm could draw from, we had to dismiss Region from the model to keep the standardised mean differences small enough.

**Figure 8. Love plot of matches produced for treated councils in the Local Digital Fund.**




9.5.6. In the plot presented in figure 8, teal dots represent the adjusted standardised mean differences, which, ideally, should be closer to the mean difference of 0 than the red dots. It is evident that for boroughs, core spending power, and district councils, the matching accuracy decreases in the adjusted sample. However, it was still necessary to incorporate these attributes as baseline properties. In addition, all values were still within the (lenient) threshold of 0.25. Given that this second stage of matching set out to focus on the motivational aspect of having applied for the Local Digital Fund and the matching accuracy substantially improved for that variable. In case further panel attrition occurs, the matching will potentially have to be redone to ensure that every treated council has a match to be used in the Difference-in-Difference analysis, for which the matching exercise essentially is a prerequisite.

## Difference-in-Difference

9.5.7. The formula for Difference-in-Difference analysis, as employed in the Local Digital Fund evaluation, is Y = 0+1Group + 2 Treatment +3GroupTreatment+e. Y is the dependent variable, and 0 is the intercept, representing the baseline value if all other covariates were 0. 1 is the coefficient for the variable group, which is typically - as well as in our case - binary, with 0 representing the comparison group and 1 representing the treatment group. It thus quantifies the initial

difference between both groups. 2 is the coefficient for the variable treatment, which is also typically binary.

9.5.8. It takes different values for the pre-treatment (0) and post-treatment (1). It thus measures the average change in the outcome due to the treatment. The key coefficient for Difference-in-Difference analysis is 3, which captures the effect of the treatment on the outcome variable over time by considering the differential changes between the treatment and comparison groups. In other words, it allows us to isolate the causal effect by analysing how the treatment affected the treatment group relative to the comparison group. Finally, e is the error term, capturing unexplained variance in the model. We will calculate the Difference-in-Difference model using RStudio's lm () - function.

## Logistic Regression

9.5.9. The formula for logistic regression, as employed in the Process Evaluation of the Local Digital Fund workstream, is P(Y=1) = 1(1 + e(-z)). P(Y=1) represents the probability of the event occurring ("success"), i.e., taking the probability of 1. e is the base of the natural logarithm, whereas z is the linear combination of independent variables. This is calculated as z = 0+1X1+2X2+ ...+nXn. Zero is the intercept, representing the value of dependent variable's log-odds if all other covariates were 0, n are the coefficients associated with each variable, and Xn are the independent variables, which may either be continuous or categorical.

## Difference-in-Means

9.5.10. The formula for Difference-in-Means analysis as employed in the Process Evaluation of the Future Councils workstream as well as the Impact Evaluation of the Training workstream, is Difference = Group 1 - Group 2. Group1 is the mean of Group 1 and Group 2 is the mean of Group 2. The statistical significance of this difference will be assessed through a t-test.

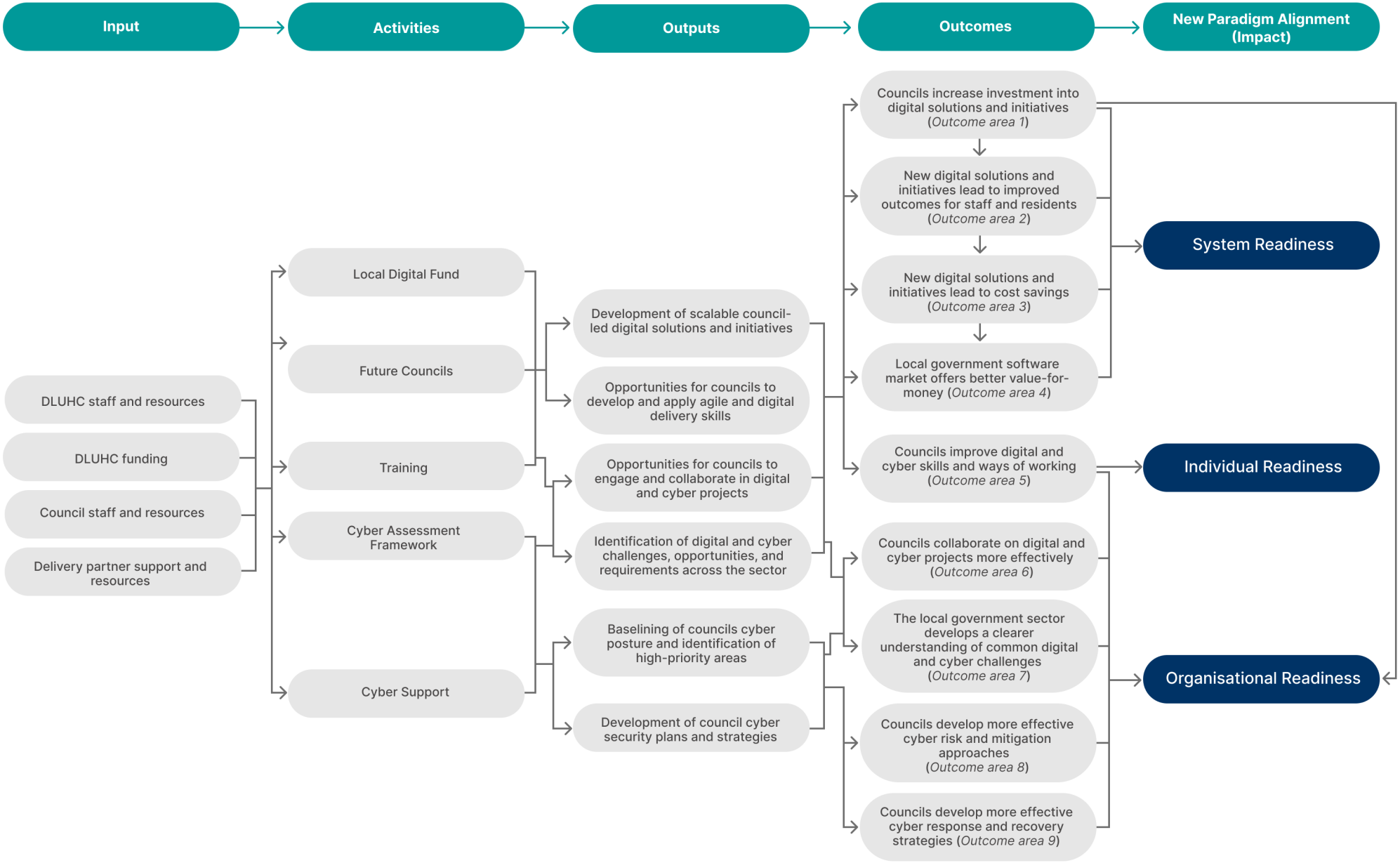
## Multiple Linear Regression

9.5.11. The formula for multiple regression can be expressed as follows: Y = 0 + (1X1) +(2X2) +(nXn) + e.  Y is the outcome of interest, 0 is the intercept, and i are the regression's coefficients, telling us how much of a change in Y can be expected for a change in the value of the independent variables, which are denoted Xn. Finally, e represents the error term, which accounts for the part of Y not explained through the independent variables.

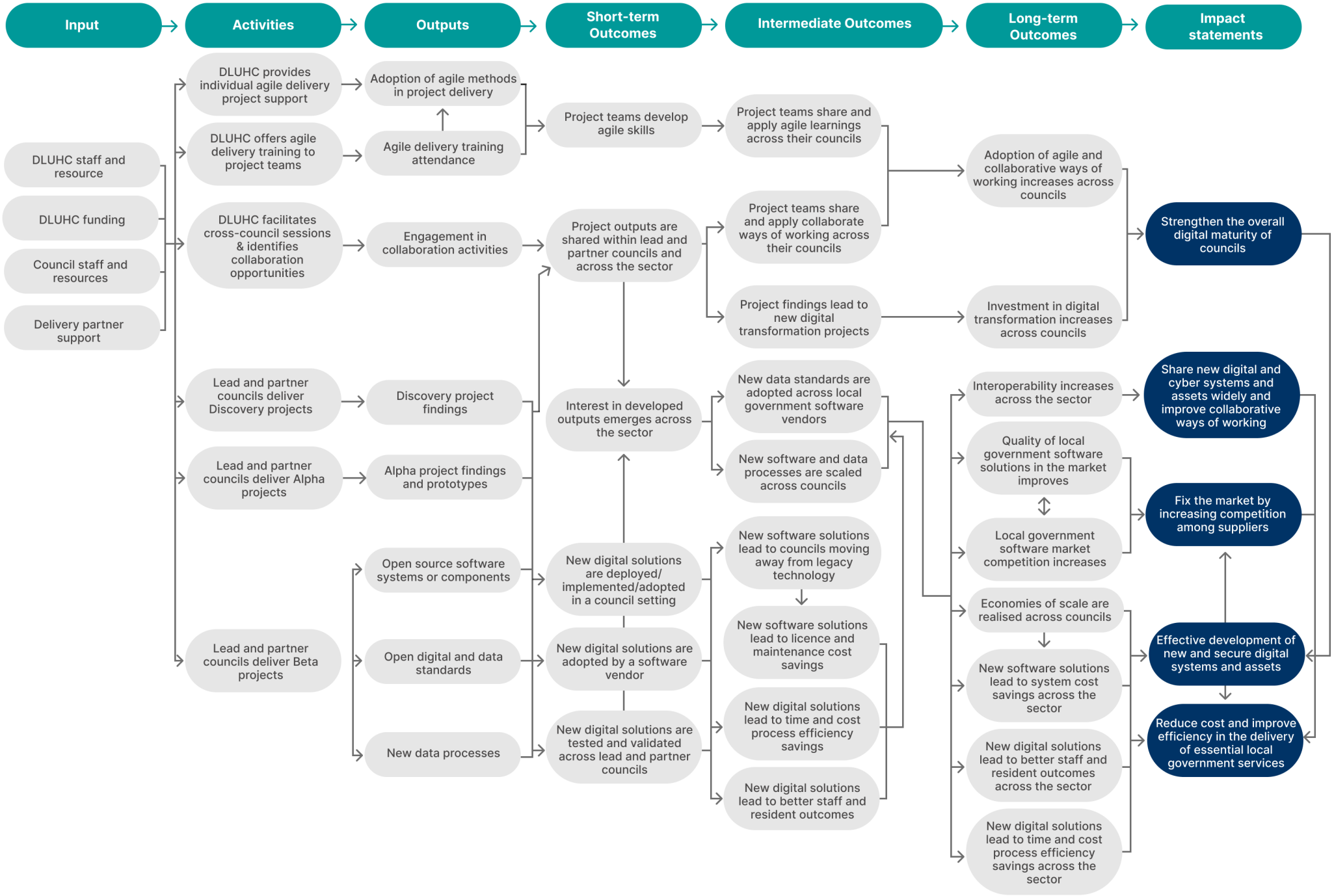
## 9.6. Extended version of visual logic models

9.6.1. See below the extended versions of the Local Digital programme and individual workstreams' Theory of Change visual logic models. The abbreviated versions and full description of each Theory of Change can be found in Chapter 4.

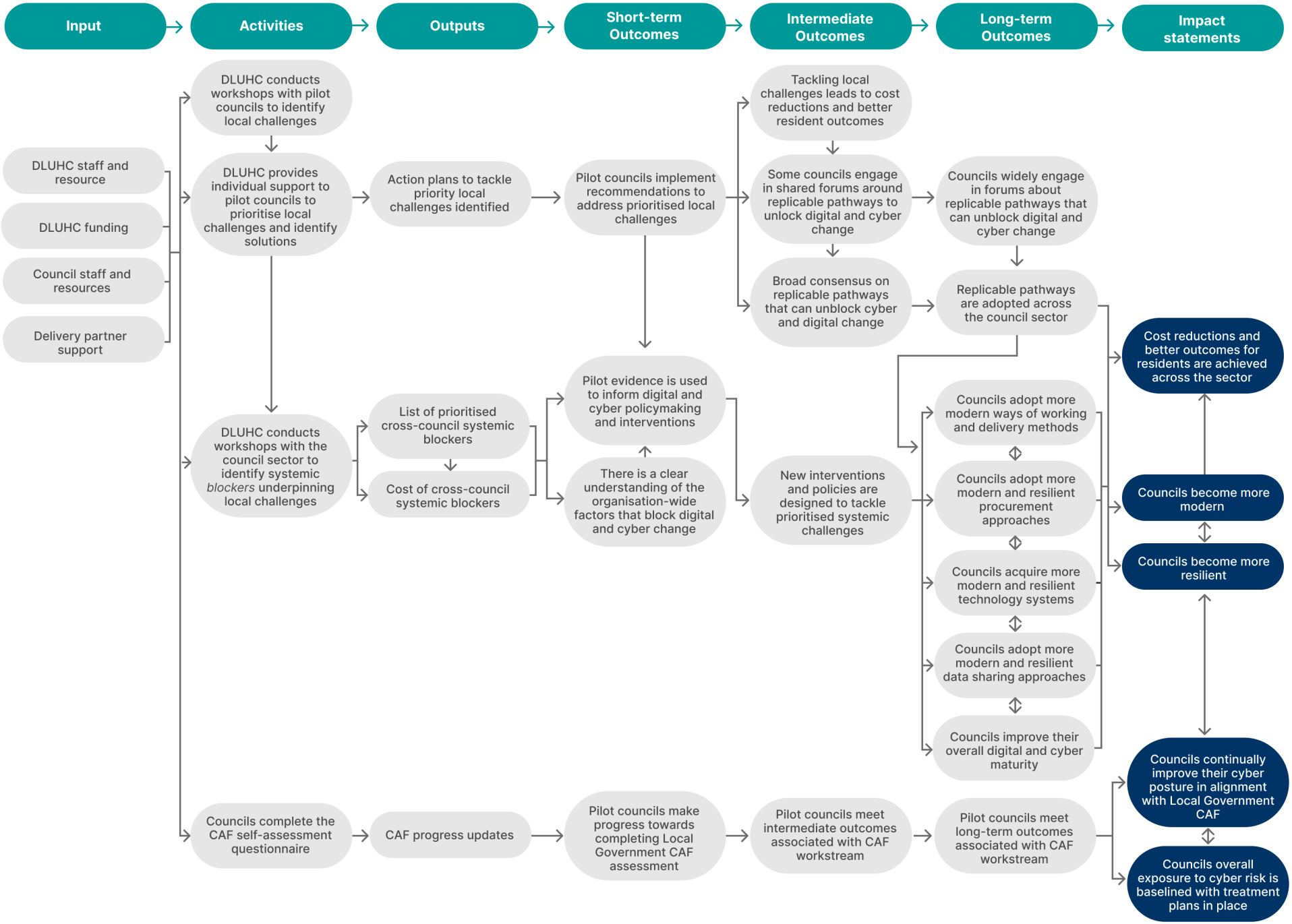
## Figure 9. Local Digital programme visual logic model (extended version).



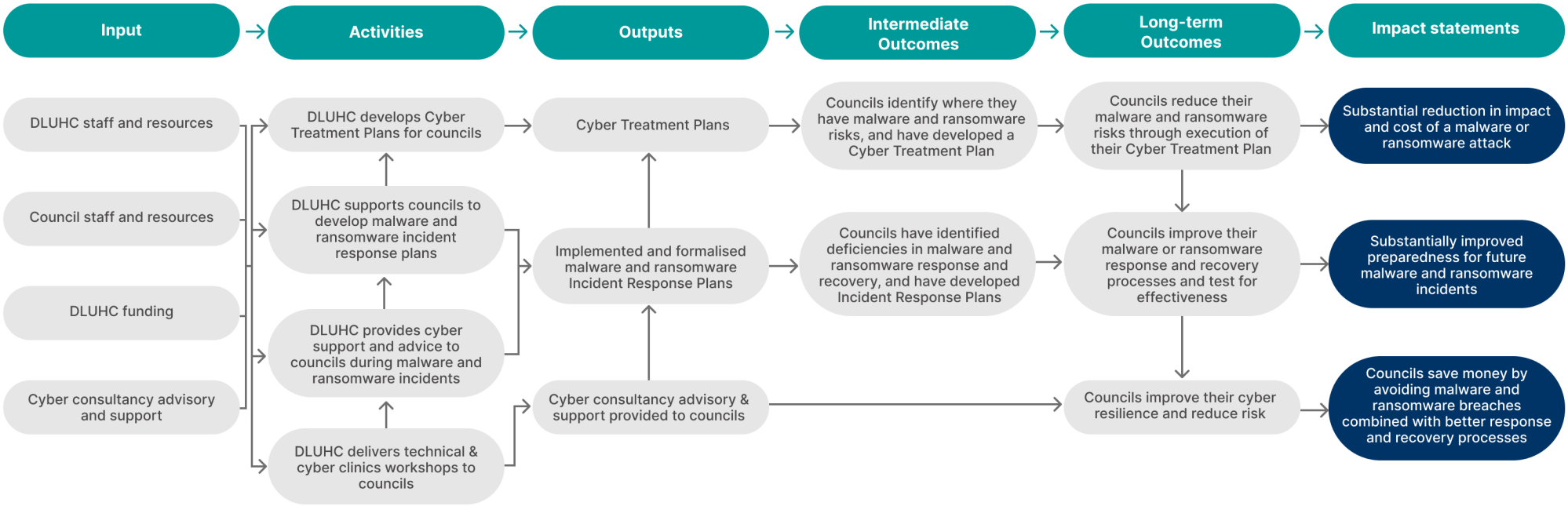
## Figure 10. Local Digital Fund visual logic model (extended version).



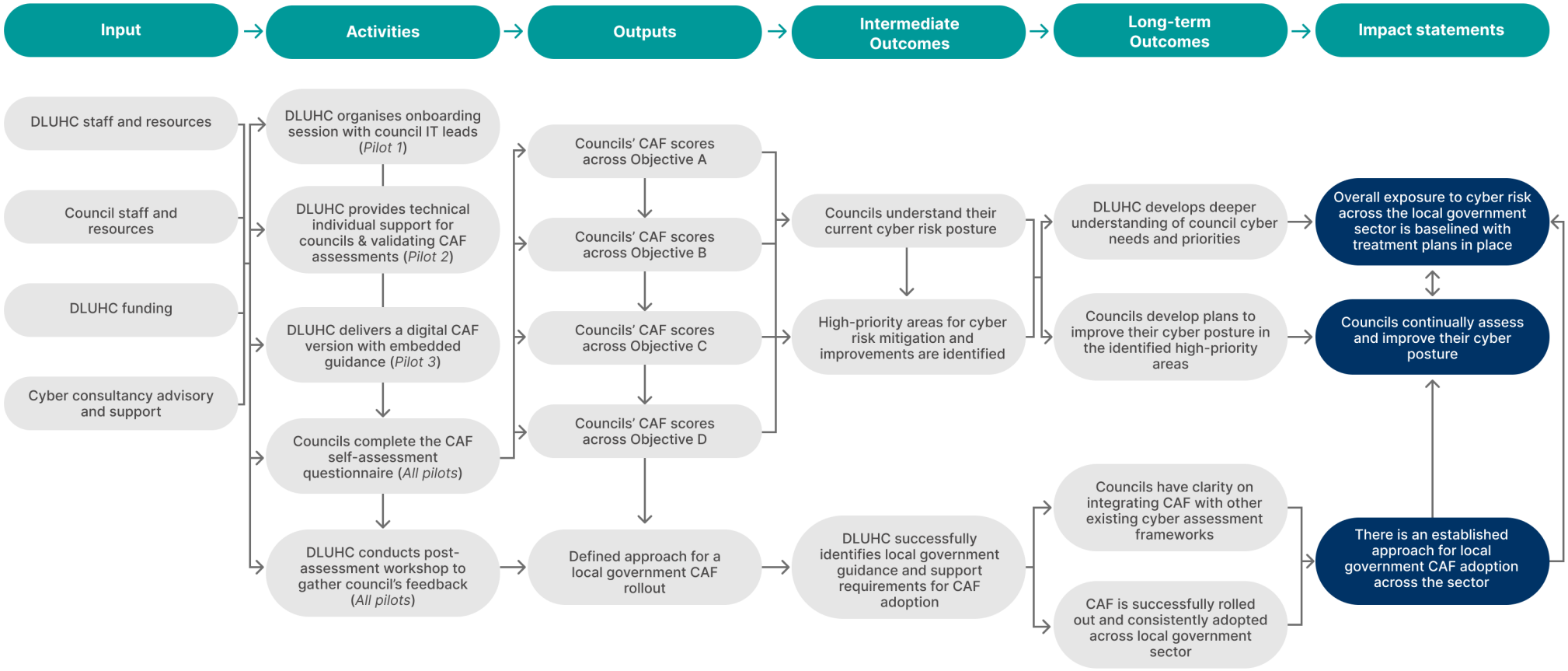
## Figure 11. Future Councils visual logic model (extended version).



## Figure 12. Cyber Support visual logic model (extended version).



## Figure 13. Cyber Assessment Framework visual logic model (extended version).



## Figure 14. Training visual logic model (extended version).