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Enhancing Systemic Capability in the Civil Service:

Report of key findings

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REPORT TO THE SYSTEMS UNIT
IN THE CABINET OFFICE
OF THE UK GOVERNMENT

"In our department, we say we're 'falling in love with the problem'. We too much leap to a solution. Taking a systems approach can help with 'what's the problem' in a granular way. Thinking through problems in a structured way is the biggest thing for policy-making. The UK is very good at innovative solutions at small scale.

The ambition of this is great".

Interviewee

Summary of key proposals

The key findings and proposals from 12 telephone interviews with senior civil servants are focused around the scope for:

- ❖ Adopting cross-boundary perspectives to help address matters of complexity;
- ❖ Building a variety of systems thinking capabilities in the Civil Service; and
- ❖ A style of leadership to help address cross-cutting complex priorities – gathering viewpoints to help define this.

Key proposals: ten workstreams

The following workstreams are designed to augment (not replace) the current capability-building strategy being led out of the Systems Unit in the Cabinet Office:

Workstream 1: **Seek/secure Ministerial/senior backing**, including the possibility of catalysing an All-Party Parliamentary Group (APPG) for longer term traction.

Workstream 2: **Develop Civil Service principles** for adopting cross-boundary perspectives, through help from one of the Government Professions.

Workstream 3: **Consider the interface between systems thinking and the Treasury guidance books** – e.g. Green book review, and the scope for a systems-thinking book.

Workstream 4: **Consider 'outwardness'** – Working with local government; looking elsewhere for examples of good practice; and thinking about wider stakeholder and community engagement as a normal aspect of projects.

Workstream 5: **Adopt rewards/incentives** for cross-boundary working.

Workstream 6: **Design an aligned internal Communication Strategy**: this would develop as appropriate as the workstreams are explored.

Workstream 7: **Widen the interpretation of success**: Success can be interpreted as achieving 'systemic collaborative learning' when embedding systems thinking into the culture is required.

Workstream 8: **Co-design (with policy actors) authoritative and accessible Systems Thinking resource materials** – e.g. a reference list, an information hub, access to a network of expertise, induction training.

Workstream 9: **Incorporate systems thinking in Civil Service Leadership training**: Check the feasibility of incorporating systems thinking as an Organisational Design and Development (ODD) initiative within the context of the *core business* of the Civil Service.

Workstream 10: Examine the feasibility for **compatible IT systems** to help people from different departments work together with greater agility (e.g. MacBooks).

To be avoided:
A command and control style, fast pace, short-term project delivery, solutionism and 'initiativitis'.

Recommendation

That the Cabinet Office sets up a small group of key people – called the Systems Thinking in Action Group (STAG) in this document – to consider the project's 10 proposed workstreams:

> To explore and set up each workstream, if feasible, as a mid to long-term project, with a view to terminating each workstream once explored, established or completed as appropriate, until all ten workstreams have been fully addressed.

See also the [summary diagram](#) on page 49.

The workstreams are 'laddered' in terms of ambition as follows:

Highly ambitious:

Considering all of workstreams 1 to 10 in addition to the existing capability-building strategy would be highly ambitious and would be the most comprehensive approach to embedding systems thinking into the culture of the Civil Service to address complex cross-cutting issues more effectively.

Ambitious:

Considering workstreams 4 to 10 would be ambitious.

Modest, pragmatic ambition:

Considering workstreams 8 to 10 would be a modest, pragmatic ambition.

The Systems Thinking Capability Programme

The STAG would first consider the workstreams, identify whether anything else is missing, and jointly decide the appropriate level of ambition to be adopted to move the work forward as part of the strategy already under development.

The authors particularly recommend embedding a *variety* of systems-thinking approaches to improve capabilities in undertaking penetrating explorations of, and addressing, complex priorities more effectively. In terms of 'branding', this would be in the manner of **critical systems thinking**, **systemic intervention** (see pp 21-22), or could take the form of a **bespoke approach** designed especially for the Civil Service – to be fit for use now, and adaptable into the future.

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Contents

"You can press people to batten down the hatches, or they need to be allowed to be more courageous; immersing them, supporting them". Interviewee

1. Background

A successful bid for a 2019-20 QR Strategic Priorities Fund allocation was made by Professor Gerald Midgley at the University of Hull following meetings with representatives of the Systems Unit (then called the Strategic Framework Team) at the Cabinet Office, in which possibilities for collaboration were discussed. The overall aim of the 11-week project was:

> *To explore how to improve the ability of the Civil Service to build systems thinking capability, collaborate across ministerial boundaries and address 'wicked' problems.*

The project allowed for a Post-Doctoral Research Assistant to be employed and, following the success of the bid, began with immediate effect, with the project design, necessary permissions and the field work running from mid-January 2020 until the end of March 2020. The analysis and report-writing were completed during April and May, 2020.

2. Project brief and research design

Following the appointment of Dr Catherine Hobbs as Post-Doctoral Research Assistant and initial preparation, a first project meeting took place on 29 January 2020 at the Cabinet Office with Simon Wood, James Hostford and Pedro Wrobel (the latter for just part of the meeting). All three belonged to the Strategic Framework Team (now the Systems Unit), and the purpose of the meeting was to refine the project brief and research design in order to ensure relevance to our Cabinet Office partners. The co-created project brief and research design was as follows:

Co-created project brief and research design

> **Project brief**
>
> **Support Cabinet Office colleagues to develop a clear strategy for embedding systems thinking approaches into the culture of the Civil Service by exploring:**
>
> > a. *The scope for the strategy*
> > b. *The perceived barriers*
> > c. *The potential ways to overcome these barriers and achieve a cultural shift to augment working methods with boundary-spanning (i.e. to achieve horizontal as well as vertical hierarchical working)*

Project design:

A. Interviews to cover questions about:

The systems thinking family of approaches

> How to build a variety of systems thinking capabilities within the Civil Service as a whole:
>
> > How this objective could be achieved
> >
> > Perceived barriers to meeting this objective
> >
> > Potential ways to overcome these barriers

Link with systems leadership

> Examine the link between systems thinking and systems leadership - identify opportunities and constraints

Supporting a cultural change towards systems leadership

> Explore:
>
> > How to encourage cross-boundary working across departments
> >
> > The feasibility of developing a set of Civil Service principles for adopting cross-boundary perspectives
> >
> > Other ways of achieving cross-government working?

How to nurture this form of 'boundary-spanning' culture or mindset, so that collaboration and systemic working methods become more of a norm?

B. Systemic Perspective Mapping and Viable System Model (VSM) exercise

Pam Sydelko[1] to be approached about holding a workshop on Systemic Perspective Mapping[2] (her own approach) and the Viable System Model (VSM)[3].

C. Seminar/meeting/workshop

Material gathered from A and B to be discussed in order to develop proposals/recommendations for a clear, long-term strategy to embed the use of a variety of systems thinking skills into the culture of the Civil Service, augmenting the strategy for capability-building that is already being pursued.

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[1] An independent consultant and doctoral student in the Centre for Systems Studies, University of Hull, who has used systems approaches in the USA to help statutory agencies there collaborate on dealing with the interface between local gang violence and international organised crime.

[2] Sydelko P, Midgley G and Espinosa A (2017). A Systemic Integration Approach to Designing Interagency Responses to Wicked Problems. *Proceedings of the 61st Annual Conference of the International Society of the Systems Sciences (ISSS)*, Vienna, Austria, July 2017.

[3] Beer S (1985). *Diagnosing the System for Organisations*. Wiley, Chichester.

3. Purpose of this report

The onset of the COVID-19 pandemic during the period of the research led to ongoing adaptations to the research design. This report of key findings has been drawn up as a brief, policy-focused report using data analysis from 12 telephone interviews undertaken with senior civil servants.

The possibility of a jointly-authored paper between the researchers and Cabinet Office representatives is under discussion, and this may be submitted to a peer-reviewed journal.

4. The interviews: summary of findings

Overview of methodology

12 telephone interviews were conducted with senior civil servants during March 2020, spanning 12 Government departments. The interviewees were selected by the Systems Unit following a stakeholder analysis. Of the 20 people approached, 14 agreed to take part: one interviewee was unfortunately unable to take part due to the COVID-19 workload, and it proved impossible to find a diary time with another interviewee, following a postponement.

The average length of the interviews was one hour.

Notes taken during the interviews were transcribed, checked and approved by the interviewees: these approved notes then became the authorised version of the interviews for the analysis.

Findings

The findings are summarised under the three sub-headings of 'supporting a cultural change towards adopting cross-boundary perspectives' (section 4.1); 'the systems thinking family of approaches' (section 4.2); and 'the link with leadership' (section 4.3). *At this stage in the report, the findings are listed to help give an immediate impression of the range of answers, together with a selection of illustrative quotations from the authorised interview notes.* Emerging themes are drawn together and summarised later in section 6 of this report.

4.1 Supporting a cultural change towards adopting cross-boundary perspectives

The interviewees were asked to talk about what would be needed to support a cultural change, so that taking cross-boundary perspectives becomes more of a cultural norm within the Civil Service:

Currently

- **Current initiatives are not new and are a continuation or extension of previous endeavours.** Various ways of handling cross-cutting work have been tried, and some are well established. These are variously described as cross-departmental groups, formal Cabinet Committees, shared Ministers, steering groups, 'fusion doctrine', Joint Units (e.g. Health and Work, Air Quality, Child Poverty), National Strategy Implementation Groups, strategy boards and working groups. Reference was also made to the National Security Council which, along with the Strategic Framework approach in Scotland, was described as a precursor to the current Strategic Framework approach in the UK Cabinet Office. Bringing in outside expertise as a matter of routine was also referred to.
- **The Systems Unit's work** has been very helpful, but *"it took a long time to get the individual pilot projects off the ground: the project design takes a lot of time".* The demonstration projects have been short-term (e.g. approximately 6 months): a demanding timescale to get to grips with 'wicked' policy problems.[4]
- **There is a growing awareness of the need to work cross-departmentally,** yet one interviewee had heard from others that cross-government meetings have been happening less than used to be the case.
- **The Civil Service can respond well to a big political imperative:** *"the more interesting question is why we're not doing it when the PM is not asking".* This comment indicates that departments can adapt their priorities when it is demanded of them, but *routinely* looking for synergies and tensions between different policy agendas is not the cultural norm.
- **Interface with local delivery systems.** An interviewee talked about the importance of going beyond just collaboration between central government departments: "*it needs to be considered how this relates to local delivery systems*" – e.g. Clinical Commissioning Groups (CCGs) and the Prison Service national/local interface. This ties in with a comment made by another interviewee that there should be an

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[4] There is a balance to be struck here between demonstrating the potential inherent in systems approaches (which is particularly important at the early stages of developing capabilities) and making progress on cross-departmental working when there are deep-seated tensions between different policy priorities. It is becoming increasingly clear that the most intransigent wicked problems are regarded as such, not so much because of their complexity (although complexity and uncertainty are relevant), but because there are two or more policy imperatives (and associated value sets) that may conflict, at least in the short term (the best known being economic growth and the rapid elimination of carbon emissions). In some cases, when there are competing imperatives, it is either impossible to sustain them both, or doing so would require fundamental system change. In the case of fundamental system change, a lack of political will may be an issue, and/or stakeholder perspectives on what is an acceptable timeframe for transformation may diverge.

'outwardness' to the endeavour: "*There's a risk for the Strategic Framework Team that they're spending time on the Civil Service, getting the Civil Service to work amongst themselves, but the Civil Service should really be reaching out to the public, to local authorities, to Clinical Commissioning Groups etc.; there should be an 'outwardness' to it as well as cross-departmental*".

- **'Big' policy issues, such as climate change and immigration,** are of particular concern, and there is considerable potential to be more cross-cutting. However, the structures that are in place to address these issues have evolved over time and could be more cross-cutting: "*Subjects like climate change and migration are big grey areas. There is increasingly some structure around how we tackle them, but that has evolved and hasn't always been as cross-cutting as it should have been. So, groups of senior officials could come together through new fora to consider issues which are extremely cross-cutting, such as immigration*". This relates back to what was said in footnote 4 about wicked problems, as these big policy issues tend to be characterised by competing imperatives (e.g. addressing labour market shortages in critical parts of the economy versus a desire to restrict immigration). Moving beyond short demonstration projects and seeking to make progress on big issues may require more than just the adoption of systems methodologies to support collaborative dialogue (e.g., Soft Systems Methodology[5]; the Strategic Choice Approach[6]; Interactive Planning[7]; Structured Democratic Dialogue[8]; and Strategic Assumption Surfacing and Testing[9]), useful though these are: it may also require the restructuring of organisations and communication channels between different organisational functions (and the Viable System Model[3] can be useful to support this).

- **Alignment between departments so they can more effectively push in the same direction** could be improved. "*Early on, we were siloed. There's more of a recognition now that siloes aren't the answer. There are cross-government meetings. There is a governance architecture, strategy boards and working groups, to wrestle with these issues*". "*Where it's less good is where an issue doesn't sit with any departments or people with a responsibility to lead. It's not very collaborative*". The latter point is particularly important: it would appear that some policy issues continue to fall through the cracks between paving stones (an example, in the experience of one of

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[5] Checkland P & Poulter J (2006). *Learning for Action: A Short Definitive Account of Soft Systems Methodology and its Use for Practitioners, Teachers and Students*. Wiley, Chichester.

[6] Friend JK & Hickling A (2005). *Planning under Pressure: The Strategic Choice Approach*. 3rd edition. Routledge, London.

[7] Ackoff RL, Magidson J & Addison HJ (2006). *Idealized Design: Creating an Organization's Future*. Wharton School Publishing, Upper Saddle River.

[8] Laouris Y & Michaelides M (2018). Structured democratic dialogue: An application of a mathematical problem structuring method to facilitate reforms with local authorities in Cyprus. *European Journal of Operational Research*, *268*(3), 918-931.

[9] Mason RO & Mitroff II (1981). *Challenging Strategic Planning Assumptions*. Wiley, New York.

the authors, is service provision for homeless children[10]), and they need to be identified and addressed.

Barriers

"It's harder to work in a cross-boundary way, it takes more responsibility. You can get 'loafing' with bigger groups of people. Cross-boundary work takes more effort. We are all incredibly busy – it's easier to do your own bit. A group of people have been rewarded for a long time to think along those lines".

The interviewees highlighted a number of barriers to cross-departmental working, summarised as follows:

- Inconsistent priorities – for example, manifesto priorities can be inconsistent, as can departmental priorities.
- The Single Departmental Plan comes first. Rewards are linked with the norms of Single Departmental Plans and departmental working, which is how the money flows, and the cross-cutting work therefore seems counter-cultural.
- Objective setting is siloed.
- There is different, static technology between departments that does not work with agility.
- Systems thinking is not taught at induction, so the mentality of civil servants starting work is not systemic. A toolkit for thinking is needed.
- There is no single Civil Service, no cross-government viewpoint.
- There are problems of accountability, both political and managerial, when work cuts across departments, as accountability is departmentally designed.
- A lack of training and advice for politicians: civil servants are required to support the agendas set by politicians, and if the latter do not see the need to take account of interactions between policy areas, the former may be obliged to set aside or truncate the systems thinking that they know is needed.
- People are busy, very busy: it is hard to fit in new learning when people feel so stretched, even when they know their work will benefit.
- The Civil Service retains neutrality (although this is less significant at the local level), which matters because many systems thinkers describe their practice as 'value-full'[11]

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[10] See the following:

> Boyd A, Brown M & Midgley G (1999). *Home and Away: Developing Services with Young People Missing from Home or Care. Research Report.* The Children's Society, NCH Action for Children, the Manchester & Salford Methodist Mission, Manchester.

> Boyd A, Brown M & Midgley G (2004). Systemic Intervention for Community OR: Developing Services with Young People (Under 16) Living on the Streets. In, *Community Operational Research: OR and Systems Thinking for Community Development*. Midgley, G. and Ochoa-Arias, A.E. (eds.). Kluwer, New York.

[11] Midgley G (2000). *Systemic Intervention: Philosophy, Methodology, and Practice*. Kluwer/Plenum, New York.

rather than value-neutral (i.e., all analyses and policy choices are informed by values, so critical-systemic reflection on the values that could be relevant is useful).[12]

- The pace at which Ministers and senior leaders are moved around means that corporate meaning and intent is lost.

- Leaders are expected to have the answers. This implies that a call for collective thinking could be seen by some as a sign of weakness.

- Evaluation of the performance of individual civil servants is incentivised to remove the complication of externalities, or these are simplified, so taking account of the bigger picture when devising policy alternatives may be seen as undermining personal career progress.

- Many policy questions are too big to be effectively addressed in the short-term, while science advice is often too narrow or too long-term – it would appear that tensions are possible between systems thinking and *both* the electoral cycles of government and the conventions of scientific practice.

- There are individual strands of research which are not linked up, are relatively fragmented, and there are gaps in the research that is undertaken:
  "*The way science is funded, the way science works, is reductionist. For example, thinking of water pollution and agriculture, you would think that's a tightly focussed topic. But there are researchers looking at phosphates, there are researchers looking at nitrates, there are scientists looking at ammonia emissions into the atmosphere. There are individual strands of research that are not linked up. They are relatively fragmented and there are gaps*". In the view of the authors of this report, while the science funders are getting better than they used to be at calling for *inter*disciplinarity, there is little funding earmarked specifically for *trans*disciplinary research, such as the development and testing of new systems approaches for policy analysis. In addition, most funding calls require a detailed specification of the research, so proposals that say they will explore the systemic characteristics of an issue before deciding on an appropriate systems approach to tackle it are ruled out.

- It is less risky to fall back on tried and tested methods, even if people know they have limitations.

Improving cross-boundary working across departments and organisations

The following points were made by interviewees on improving cross-departmental working (we have summarised to ensure brevity, and have added comments where we were able to, without distorting the original points made by the interviewees):

- There is a continuing need for the Cabinet Office to bring departments together. Ask, 'where are the gaps?'; 'where could prioritisation be better?' Setting shared goals is

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[12] In reply to this, it is important to emphasise that the agendas of politicians are not value-neutral, and the neutrality of the Civil Service is about implementing the agendas of the government of the day (rather than their own), and ensuring that free and impartial advice is provided. In this light, systems thinking is entirely appropriate because it emphasises making value-laden choices (the values of politicians can flow into these) and understanding the impacts on, and trade-offs with, other values, which can inform the provision of free and impartial advice.

important – e.g. here's ten things to focus on. Start with a small number of shared ambitions, but do not create a burning platform (i.e. put people in a situation where there are drastic consequences for failure) because this will be resented and it will generate resistance. The focus on shared ambitions and goals is more likely to generate commitment.

- Start with a 'pathfinder' project or projects, engaging with those who are willing. Do it to generate momentum, with positive feedback loops to grow the community of interested civil servants. Make sure these projects engage with real-world problems that matter to government, and build a set of case studies that can be used for education, training and making the case (when needed) for further use of systems approaches.

- This needs to be about more than inter-departmental collaboration: the Civil Service also needs to look outwards and involve stakeholders beyond government.

- Stakeholder mapping at the start of every new work strand would be useful, and to this end there is a new systems approach to stakeholder analysis and engagement.[13]

- On high-priority, cross-cutting issues, civil servants need clear signals about when they should give time to these in preference to narrower departmental agendas. This implies a cross-government strategy function for prioritisation, and a co-ordination function to back this up so, when necessary, human and/or financial resources can be moved between departments in order to facilitate the balancing of inter- and intra-departmental agendas. However, this means more than just better strategic priority-setting: it also requires better joined up working at the operational level, and giving people the headspace to think things through, talk with others, and address complexity. The VSM would arguably be useful for thinking through how these things could be improved.

- Tensions between departmental silos and cross-government working do not have to be viewed as unhealthy, and could be used constructively: this is about turning unproductive or entrenched conflicts into generative ones (i.e., looking collaboratively for creative solutions), which is something that many systems approaches can enable.[14] The use of experienced facilitators can help here, for instance to support the reframing of tensions as opportunities.

- There needs to be a focus on good outcomes for the public, which implies finding out from citizens in local communities what they value (checking existing assumptions, and not making new ones in the absence of community engagement). Here, the theory, methodology and practice of Community Operational Research[15] is useful: much of the work in this field applies systems approaches to local-level

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[13] Gregory A, Atkins J, Midgley G and Hodgson A (2020). Stakeholder Identification and Engagement in Problem Structuring Interventions. *European Journal of Operational Research*, 283, 321-340.

[14] Midgley G (2016). *Moving Beyond Value Conflicts: Systemic Problem Structuring in Action*. Research Memorandum No.96, Business School, University of Hull.

[15] Johnson MP and Midgley G (2018). Community Operational Research: Innovations, Internationalization and Agenda-Setting Applications. *European Journal of Operational Research*, 268, 761-770.

service design and other forms of community development[16], but many of the principles associated with meaningful community engagement[17] are potentially transferable to national government.

- There is a [Treasury] Green Book, a Magenta Book, an Orange Book and an AQuA Book for analytics. There could be a Systems Thinking Book. The Green Book is grounded in incremental thinking rather than systemic thinking: the new Systems Thinking Book could be about thinking about things in the round.
- Collaborative, live working between teams/departments could be enabled using the right tools (e.g. MacBooks). Practical things are necessary, such as common databases, common resources and a common directory.
- Have systems thinking materials on a hub; develop a toolkit for using them; and engage with the systems thinkers in the Government Operational Research Service (GORS). This is about translating systems thinking approaches, not re-inventing them.
- Systems thinking could be taught as part of the induction programme.
- Doing something differently requires leadership, so getting buy-in from leaders across departments is important. Strong political and bureaucratic leadership is required, specifying that this cross-cutting work is not *related* to the government's core business – it *is* the core business.
- Political permission is needed for more cross-cutting collaborations. However, in support of this, Ministers need away-days about working together, so politicians understand the importance of collaboration across boundaries and do not frustrate it through siloed command and control.
- More incentives (rewards) for joined-up working are necessary, including career progression for those who show both a willingness and aptitude for collaboration across boundaries. Pay particular attention to rewarding those who pick up issues that have fallen through the cracks in between government departments.
- A cross-government action plan is needed, and this could be updated periodically.
- Deep expertise *and* co-ordination are needed in tandem, which is where systems leadership comes into its own as a role. 'T-shaped' individuals are required, who have depth but can also bridge across specialisms.[18] Nevertheless, from a systems perspective, it is important to say that there is a difference between people who are willing to learn from other disciplinary and stakeholder perspectives (a necessary but not sufficient capability), and people who are genuinely *transdisciplinary* – i.e. adept at the use of systems theories, methodologies and methods that can be deployed regardless of what kind of disciplinary knowledge (if any) is engaged.

[16] Midgley G and Ochoa-Arias AE (2004). *Community Operational Research: OR and Systems Thinking for Community Development*. Kluwer, New York.

[17] Midgley G, Johnson MP and Chichirau G (2018). What is Community Operational Research? *European Journal of Operational Research*, 268(3), 771-783.

[18] Johnston DL (1978). Scientists Become Managers: The "T"-Shaped Man. *IEEE Engineering Management Review*, 6(3), 67-68.

- According to one interviewee, the dominant paradigm in the Civil Service is science and engineering, and the human dimension can be neglected. Most users of systems thinking pay attention to multiple stakeholder perspectives, and even the systems methodologies that are not explicit about this can still be enhanced by stakeholder participation. The human dimension is therefore central to systems practice, and more time needs to be given to exploring this aspect rather than just the technical elements of a project.
- Shared data sets can be useful to help trace an individual's user journey: e.g. prison leavers, care leavers and use of local services. Research on how individuals interact with multiple services (as opposed to looking at single services separately) can help government see where gaps in service provision, problems of service co-ordination and system failures lie in public service, which potentially benefits both the client and the public purse in tandem.

A selection of notable extracts from the interview notes

In the following, the extracts are in italics and comments from the authors are in normal text.

> *"Consensus on outcomes gives a long-term direction of travel, then successive governments can do the same thing, with a collective sense of an end goal".*

There are different views in politics on the desirability of continuity between governments of different Parties. In reality, there are no doubt issues where building a cross-Party consensus is possible and others where it is not. If more of an emphasis is placed on facilitating cross-Party consensus, then there is a systems approach called Structured Democratic Dialogue[8] that is specifically useful for this because it facilitates participants in thinking through how different policy options suggested by different people (who might start out in opposition to one another) could be mutually supportive (e.g. one policy option could make the implementation of another easier). Also, in the face of a strong consensus, attention has to be paid in the systems thinking of the Civil Service to keeping marginalized voices at the table[19], to avoid groupthink and complacency. For instance, the issue of family violence is one that every mainstream political party has a commitment to tackle, so it is theoretically possible to build a consensus around action on this, but there are different views on what service systems should look like; who should be involved in providing them; what should happen to children taken into care; priority-setting when values come into conflict (e.g., how should a balance be struck between punishing and rehabilitating offenders?); and the relative priority of resourcing family violence service systems compared with other possible areas for investment. The greater the political consensus, the more responsibility rests with the Civil Service to keep alternative values and policy options under active review.

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[19] Midgley G, Munlo I and Brown M (1998). The Theory and Practice of Boundary Critique: Developing Housing Services for Older People. *Journal of the Operational Research Society*, 49, 467-478.

"It's difficult to bottle the difference that partnership working makes".

This suggests that it is difficult to be specific about the causal relationship between partnership working and outcomes, given that so many variables are at play in realising those outcomes. Thus, it's difficult to prove 'added value'.[20] The same interviewee suggested that a measure of success for partnership working is when an individual refers to a place (e.g. Greater Manchester) rather than their organisation (e.g. Manchester City Council).

"It can be hard for government to expose a lack of 'knowing the policy answer' to other actors in the system, so building trust is vital".

"Each Whitehall department…. It's like a Rubik's Cube for society. One department aligns the blue, one the red, etc., unintentionally unravelling each other's work. We need a set of asks to get us to solve the Rubik's Cube".

"You could make each Secretary of State responsible for some contribution. Each Secretary of State has priorities to focus on from the PM – perhaps five things. Two things could be cross-cutting as well… Just a small number of cross-cutting priorities where you need them, and linked with a political priority. Having 50 different change activities is too much. Thinking of the Civil Service architecture; if the PM said to the Cabinet that each has 2 cross-cutting priorities, and they are expected to take up 10% of policy time, that creates a Civil Service policy resource. Political permission is needed".

"We could see the possibilities of a deliberative, participatory approach…. looking at setting objectives for an area, looking broader…, but it became hard to get buy in from across the department for a more all-encompassing approach. This sort of thing happens all the time. There's an opportunity here: it needs engagement at the senior levels and through those people who have their own personal motivation to do it".

"Pick something which is a PM and Conservative Government priority. It plays into the need to make a difference, finding people and letting people in who naturally work that way. The organisation needs to deliver, it has massive resources. If there is a small central team, it allows them to be insular and own the problem. To make the biggest difference – embody this way of working in the way we set out this challenge. The fact that it's Cabinet Office led gives it a central focus that drives departments. Everything is playing to the norms while trying to do a different thing, and finding something that 'works,' that leads to 'success'. Something that works over the short

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[20] There are some very new systems methodological developments in the literature that are specifically aimed at producing robust qualitative evaluation evidence of causalities when the relationships between partnerships and participation on the one hand, and outcomes of policy implementation on the other, are contested. For details, see:

Foote J, Midgley G, Ahuriri-Driscoll A, Hepi M and Earl-Goulet J (2020). Systemic Evaluation of Community Environmental Management Programmes. *European Journal of Operational Research*, in press.

term for some people might not work in the longer term or for other people. Who defines what success is?"

"Each SRO [Senior Responsible Owner] is accountable for delivering the outcome. [Interviewer: how can this work in conditions of complexity, like knife crime?] It's not about one person being in charge. Systems approaches play out, creating the conditions for things to happen. It's about creating the conditions. It's like planning a wedding: you make all the arrangements for it to happen, but you're not responsible if relative x and relative y fall out! We're trying to deliver different ways of working in the same way".

"Curiosity is needed. Ministers would like to see us deliver - what? It's about being curious, coming away from xxx more GP visits and asking instead 'what has this done for young children and families?'"

"In Coventry in 2014, there was the Get Coventry Moving initiative by Martin Reeves: 'I will be the person that convenes conversations around the definition of a problem' – it began with Type 2 diabetes and evolved into a broader societal ambition – 'ensuring that every citizen of Coventry has the best chance of living a healthy life in 6 months'. That approach requires huge humility: 'I haven't got the answer, I want to invite people in'. Keep Coventry Moving is still happening, it's been tracked over time, there's been a continuity of folk. [interviewer: will all this happen naturally?] Good point. Through osmosis, but not enough people know about it. It's raising awareness of it. All of the players nationally and locally need to come together, and the appetite for it needs to last 12 months. From experience, the way that leaders in public service have been battered for all sorts of reasons – it's made us as a collective to be risk averse. It's difficult to step into the unknown, without knowing your destination".

"Mark [Sedwill, Head of the Civil Service] has been good about creating a group of folk who meet every 8-10 weeks to talk about key issues – like climate change – but that's now been deferred to the autumn. Those opportunities really matter. We need those at National level, and to take them to a more regional/local level. It's seen as a good use of time, with expert input, problem solving together. Also, there are WhatsApp groups; it's not all being done for us. [Interviewer: so, there is peer group support?] Yes. It's about what is being asked of us through a shared Departmental Plan, what we're being measured and valued for, what resources are available. Pump priming – not just money, it's also about putting an extra person in for a period of time who can put in enabling infrastructure and be the conscience – a part-time supernumerary person. We don't have super-big knowledge exchange. There's not yet a central repository, we're starting from scratch".

"We have to think about human behaviour in relation to the environment, deal with time lags, tipping points…you can't necessarily predict, you have to think about the social element. We started with the idea of a tool-kit, but the Cabinet Office and GO-Science are taking that forward; we couldn't do a better job than them. We don't

want to give people too much choice, just a few approaches and general principles, with interesting case studies, rather than a large menu of options. We're setting out key principles for ways of working: How to frame conversations across policy areas; How to work at the science/policy interface; How to have systemic conversations with stakeholders. In each case, drawing on systems approaches, with evidence synthesis – applying systems thinking in a systems way".

"It's really interesting how the Civil Service responds in a crisis. In a crisis, it works really well across boundaries. There's a clear mandate from the PM and the whole Cabinet [this is in the context of COVID-19]. *The money doesn't stay in departments: there's ring-fenced cash, and that drives different behaviour. It's all about the public good – we're all strongly committed to make a difference for the public good. In a non-crisis situation, we build departmental identity and get a little bit lost on the wider points. The Perm Secs have a difficult job grappling with both a collective leadership responsibility and a desire to serve their Minister of State".*

"The political perspective is a departmental one. The societal perspective is a cross-departmental one. There must be a 'sweet spot' between them. But the cross-departmental work is counter-cultural to the way we work. It's counter-cultural to Ministers to embrace that way of working: they're on a career within a department, and that's OK".

"The Civil Service has enthusiastic amateurs in lots of different things…. A realisation is needed that it is a human system. Science is good, but it's not the only way. It's about how you interact with people in the moment, and guide people to a different way of thinking. We don't draw on the experience that we already have. We could draw on that depth of experience. There is a human way of tapping into expertise".

Disadvantages of taking this approach?

Interviewees were asked if they envisaged any disadvantages in taking this approach to cross-boundary working:

- This approach takes time and can add complexity to the governance architecture.
- It may be worth pausing and asking, 'what are the strengths of the current system?'
- Do the most vulnerable get a hearing?[21]
- Would the technical side of things suffer (but we are too much locked into small teams and small problems)?
- The Civil Service should be looking at the grand challenges as well as retaining core capability.
- There are challenges around Joint Units.
- Cross-cutting work can be confusing.

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[21] Here, it is vital to note that some systems approaches are more sensitive to issues of marginalization than others. It is perfectly possible to make considering the marginalization of both people and issues a central principle of all systems thinking, regardless of the methodology and methods being used. See Midgley's *Systemic Intervention* book for a rationale, methodological approach and practical examples.

- We need to get the right balance between the line management structure and accountability to the public.
- It could take a long time and not produce anything.
- It's not relevant to everything.
- There's a risk of throwing the baby out with the bath water – systems thinking isn't suitable for everything. It's suitable for many areas that matter to society though.
- It's about small changes, not a transformational challenge or a revolution.[22]
- You could just create bigger silos.
- Governance and accountability are difficult.
- The lack of personal credit for Ministers is de-motivating.
- There is always a short time frame for solving problems for 'announceables', and this tends to cut across longer-term work that involves deeper thinking.
- It could create a huge bureaucracy; e.g. Public Service Agreements.
- There is a difficulty in measuring outcomes – sometimes the most important outcomes are not easily quantified, or there isn't actually something to be measured because the systems thinking project has prevented something bad from happening. The 'measurable outcomes' culture is potentially a problem.
- Although there are potential disadvantages to cross-boundary working, there is a big disadvantage to traditional silos too. What's needed is to harness the tension and find the right balance between individual departmental responsibility and cross-boundary working.
- The work of the Systems Unit needs to be given time: "*getting stuff done can curtail the broader thinking, becoming a vicious circle*". If systems thinking projects are subject to all the existing constraints, then this will limit their value, which could be self-defeating.
- User insight and user-centred journeys, plus collaborations with the voluntary and community sectors, are of interest, but such collaborations are hard to do, particularly if there is sensitive information involved.
- Don't do it for its own sake – develop priorities to focus on, so it's also about what we're not doing. Get the right people to work together. There is thus a risk that systems thinking could become an end in itself, rather than being seen as the most effective means to address complex problems – the problems themselves must be

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[22] The idea that systems thinking is only concerned with fundamental change across the whole of society is a myth, albeit a persistent one. It possibly gets perpetuated because quite a few systems thinkers are interested in tackling grand challenges like climate change and biodiversity loss. However, every systems-thinking initiative involves setting boundaries, so the focus could be small or large, depending on the purposes of the project. Because setting boundaries always cuts interconnections in analyses (in principle, everything in the world is directly or indirectly connected with everything else), exploring different possible boundaries and the purposes and values associated with them becomes important. This is not about being all-inclusive (that would make every issue a planetary one!), but about setting boundaries that enable action with as few unwanted side-effects as possible. For in-depth discussions of boundary exploration and boundary setting in systems thinking projects, see Ulrich's book, *Critical Heuristics of Social Planning*, and Midgley's *Systemic Intervention*.

kept at the forefront of prioritisation. That means it's also about what is not being done.

"Tensions create strengths and weaknesses, but are important. 'What are the benefits of tensions?' There's too much zealotry. It would be good to ask, 'What are the good things?'"

Civil Service principles for adopting cross-boundary approaches

Interviewees were asked if they thought it feasible to develop a set of Civil Service principles for adopting cross-boundary approaches. All 12 interviewees were in favour of this suggestion, and thought it was generally feasible, but with some provisos:

- Encourage the right mindset – put it into induction training.
- This ought to be in the Civil Service code.
- Being collaborative and sharing doesn't come naturally.
- It needs political and senior backing to make a difference.
- It needs to flow down to more junior people.
- Greater Manchester could be looked at, with their single public service.
- Some departments are using Success Profiles, while some departments are still using the Competency Framework – there is a need to ensure consistency. One of the Government Professions may be interested in working on this and rolling it out through their network.
- The principles should sit alongside a capability programme, as political bosses are still departmentally focussed. The principles have to be brought to life through learning by doing.
- We already have them, with mission-based policy making, but the thinking is difficult.
- We need to share thinking from other places (e.g. the Coventry example discussed earlier on page 17).
- Promote people into senior roles with certain qualities (e.g., those who think about connections across policy areas and are willing to be humble enough to convene conversations around the definition of a problem), and this would help to shift the culture and mindset.
- It needs to be a mindset rather than a paper list (see the final quotation of this section, pg. 23).
- It requires strong leadership and political buy-in.
- Just give people the tools, and it will work.
- You need the resources (people and money) *and* a different way of thinking. It would be good to think about society as a whole, but we usually have to focus on a smaller system.

- Calling it systems thinking may cause confusion. It is to be noted that the term 'systems thinking' has been used as an umbrella term and also for some very different systems thinking approaches, making confusion understandable.[23]

The final point above is an important one. As authors of this report, we would like to make a reflection here. From our conversations with people in the Systems Unit, it is clear that there is an interest in a wide range of methodologies and methods. This is a good thing, as no one methodology can do everything that a diverse Civil Service might need. However, there is a danger that, in welcoming methodological pluralism, the Systems Unit could import into the Civil Service some of the problems that face the wider systems community – most notably, the fragmentation across the field, so it becomes difficult to say what systems thinking is and still respect the fact that there are a variety of views on it. This could hinder communication about systems thinking, put people off training (because they are unsure what they are going to get) and could even bring competition between advocates of different systems methodologies into the Civil Service.

There is a straight-forward way around this problem. There are several mature systems approaches that have been developed to support use of multiple methodologies and/or methods, and adopting or adapting one of these would provide the benefits of methodological pluralism without the above drawbacks. We particularly recommend the following two approaches:

1. **Critical Systems Thinking**
   The tradition of 'critical systems thinking', as developed since the mid-1980s in the UK, is all about aligning different methodologies with their most appropriate contexts of application. So, if you say you are taking a critical systems approach, it signals something specific, but also that it's legitimate to draw on other approaches as needed. There are two books with the title *Critical Systems Thinking*. The first[24] showcases early work, but this has been subject to some criticisms in the research community for encouraging choice between whole methodologies and not offering a more flexible practice of mixing methods. The second book[25], in contrast, offers some rethinking of the assumptions in the first book, and is arguably more appropriate for the Civil Service, as it offers a flexible and responsive set of ideas for practice. A third book[26] was published last year, and it brings the work on Critical

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[23] It should nevertheless be noted that this might not seem so confusing if sufficient space were given in university degree programmes for people to learn a range of systems theories and methodologies. At best, students can only study one module on systems thinking, and still in the vast majority of courses, it is not covered at all. There are only a couple of dedicated UK masters degrees and PhD programmes on the subject. When students study Biology, Psychology, Philosophy or Sociology, it is not considered problematic that there are different paradigms, multiple theories and a variety of methodologies and methods. This is because time is given over to learning about them, and students are expected to get to grips with a range of ideas. However, too many people are expected to learn systems thinking through little more than a weekend course.
[24] Flood RL & Jackson MC (eds.) (1991). *Critical Systems Thinking: Directed Readings*. Wiley, Chichester.
[25] Flood RL & Romm NRA (eds.) (1996). *Critical Systems Thinking: Current Research and Practice. Plenum, New York.*
[26] Jackson MC (2019). *Critical Systems Thinking and the Management of Complexity*. Wiley, Chichester.

Systems Thinking up to date. There are, however, some disadvantages of going with Critical Systems Thinking as a 'brand'. One is that there are actually *two* strands of Critical Systems Thinking: in addition to the one coming out of the UK, the other is associated with the work of Werner Ulrich in Switzerland: he has proposed the social theory and methodology of Critical Systems Heuristics, which focuses on exploring values and boundaries for analysis, and talks about empowering citizens to challenge planners who try to impose ideas on them through top-down processes.[27] These two strands are not integrated in the literature on Critical Systems Thinking, and they sit in tension with each other. The other disadvantage is that the word 'critical' is used in several different ways in lay usage and in the social sciences.[28] The lay meaning is 'negatively judgemental', which is clearly a problem because policy making has to propose constructive alternatives to anything that is critiqued. In contrast, one use of the term 'critical' in the social sciences is to indicate that the theory, methodology or practice comes from a left-wing political tradition. While those writing about Critical Systems Thinking do *not* adopt this political usage ('critical', in the context of Critical Systems Thinking, means revealing and rethinking assumptions), there is the scope for misinterpretation, and in the context of Civil Service impartiality, this could be a problem.

2. **Systemic Intervention**

   The other possible 'brand' that could work for the Civil Service is 'Systemic Intervention'.[11] This tradition asks analysts to undertake penetrating inquiries into problematic situations, including the thinking through of purposes, values and boundary judgements, and the identification of conflict and marginalization (which might need to be tackled). These penetrating inquiries are then the basis for designing a bespoke project (drawing on methods from the range of systems approaches, and even inventing new ones if necessary) that is appropriate to the circumstances. The penetrating exploration of problematic situations integrates ideas from Werner Ulrich about exploring boundaries and values, and of course the business of designing a bespoke project is all about methodological pluralism, so Systemic Intervention integrates the two strands of Critical Systems Thinking mentioned earlier. It also side-steps the word 'critical'. We suggest that the Systems Unit in the Cabinet Office could find the Systemic Intervention label useful, or it may want to put its own 'brand' on what it is doing.

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[27] Ulrich W (1994). *Critical Heuristics of Social Planning: A New Approach to Practical Philosophy*. Wiley, Chichester.

[28] Midgley G and Rajagopalan R (2020, in press). Critical Systems Thinking, Systemic Intervention and Beyond. In, *The Handbook of Systems Science*. Kijima, K., Deguchi, H. and Metcalf, G. (eds.). Springer, New York.

A selection of notable extracts from the interview notes

"That would be really interesting, yes, with a tool-kit. There are objectives for the Civil Service. So, an objective would send out a very strong signal of commitment to this. But there are many operational civil servants – half a million – and around 25,000 in policy – a cross-cutting objective might not work for operational roles. Most policy people should have an objective with a cross-boundary or cross-systems theme. If the Cabinet Secretary says this is really important, this should be seriously considered".

"There could be principles relating to a collegiate style with other departments, partnership working and systems leadership in the competency framework. For example, through the concept of 'inclusive' leadership, attention is paid to diversity training, so 'systems' leadership could work in a similar way".

"Yes, it's what we want to do in department x, with broader ambitions. It's a learning curve. We know what we want to achieve, but don't know how to do it. How do we move in a slightly different direction? [Interviewer: it seems you're already doing it anyway?] *It's like the opposite ends of a telescope – we're working with individual policy teams as opposed to the Strategic Framework trying to cut across and start from there. It's to be hoped we meet in the middle!"*

"The Treasury's Green Book is grounded in incremental thinking rather than systemic thinking... The Green Book could be about thinking about things in the round – what would help them do that for real? [Interviewer: are these books revised – if so, how often?] *The Green Book is being revised at the moment – it's very infrequent.* [Interviewer: this may be a timely opportunity?] *The Cabinet Office and GO-Science…. enlist experts and parachute them in, which is OK at the start, but: 'Give me a fish and I'll eat for a day, teach me to fish and I'll eat for a lifetime'. Many systems experts are getting long in the tooth; they have craft skills. Building links between academia and government is needed".*

"Our response is to create paper, a list: it needs to get into a mindset. We write the values and people trot them out without passing through the brain. It's a test of what you remember rather than what you believe. There are hundreds of people who are motivated, who are curious enough to think we have to keep trying stuff. You can't solve it on paper and launch it on that basis. The budgets are set annually, the spending review is based on last year – there's no way of shifting focus and backing something with agility. What can we learn from crises such as COVID-19? You could look at the impact of a crisis on group productivity and group dynamics – that's unfinished business that could carry people for years. What do we learn from a crisis without replicating a crisis?"

4.2 The systems thinking family of approaches

The level of awareness of the use of systems thinking in the Civil Service or elsewhere

Next, thinking of how to build a variety of systems thinking capabilities in the Civil Service, interviewees were asked about their awareness of Civil Service work that has used systems thinking approaches. Four interviewees referred to the work of the Systems Unit (Strategic Framework Team), although one who had worked with the team pointed out that they struggled to understand exactly what was meant by it:

> "*We struggled, understanding what exactly was meant by systems thinking. Is it a specific set of criteria or a looser term that implies mapping, identifying stakeholders across the whole journey? Over my career I've worked on [x, y & z] … but I'm not sure if they meet the criteria for systems thinking. We do something that may be classed as systems thinking, but don't conceive of it in that way*".

Another interviewee said it was not a phrase that was heard a lot in the Civil Service, while another was not aware of any work that was "*badged as such*". A further interviewee was not aware of *any* Civil Service work that had used systems thinking approaches, and one suggested that one or two grand challenges, such as ageing, had been looked at.

One interviewee suggested that:

> "*Department x has 35,000 staff, and so there are silos within the department, let alone between departments. If you focus on outcomes for the public, you can work backwards from that. For example, in terms of national security and the space of serious organised crime, you would ask – what's driving the rise of serious crime on our streets? This brings in knives, drugs, criminal gangs who are trading, as well as poverty, unemployment and individual people. There's a reasonable amount of work already in that space, but probably not enough of it. Previously, the Cabinet Office has done such work – e.g. the loneliness strategy – 'how does the government join up around particular individuals?'*"

For these interviewees, there appeared to be a broad awareness of the term 'systems thinking' and what that might imply about approaching cross-cutting work, but, *"I don't think it's been explicitly used; it's been adopted unconsciously".*

In contrast, two interviewees were familiar with systems thinking and systemic approaches: one with a background in environmental issues who is leading systemic work, and one referred to the use of systems thinking approaches within the Operational Research profession, as well as a systems-thinking group that exists within the Civil Service to share ideas and best practice, headed up by Adam Jones of GO-Science.

One interviewee explained that there was a low awareness of the Systems Unit (Strategic Framework) initiative:

"Some people were aware of the 'fusion doctrine' [interviewer: what was that?] *– the predecessor of the Strategic Framework – and that was accompanied by rolled eyes from some senior people. At a working level, people haven't heard of it. Or they find it baffling".*

Four interviewees referred to an awareness of systems thinking and projects at local government level:

"I'm aware of discussions about systems thinking and systems leadership in local government and their partners".

"The Strategic Framework idea came from Scotland…. A Strategic Framework for Scotland was developed – prosperity, well-being, inclusion, etc. There is a well-developed programme. The Scottish Government did it jointly with local government, but it's a question of scale: that wouldn't be possible in England because of the number of authorities. It's been done in small countries like New Zealand".

"The Leadership Centre – the LGA [Local Government Association] *one, not the National Leadership Centre – has had a Local Vision programme. They've been doing systems thinking for over a decade. Also, Future Vision. The NHS has come to the party with the Local Vision work. Mistakes have been made – leadership within a system rather than leaders with systems thinking capability … The Leadership Centre wrote a book: 'The Art of Change Making' – it's on their website. Local Vision included all types of different systems thinking approaches you may want to use".*

"In 2010, there was the Whole Place Community Budgets initiative, combining the work of Central Government, the Civil Service, local authorities, local partners and the police, thinking end to end to work out where the maximum ability is to make an impact. So, there's joining up services on the ground and, with approaches such as the Strategic Framework, joining up policy making: you need both. There was the Borders Delivery Group (a cross-department Brexit group, in which the Home Office played a part), with 30 different objectives, asking - do our policies and operational plans make sense as a whole?"

The above references to experience at local level would suggest that there is scope to encompass this experience from the local governance sphere as the systems thinking work for the Civil Service develops.

Finally, two of the interviewees were aware of, and named a number of, systems thinking approaches: e.g. Soft Systems Methodology[5], the Strategic Choice Approach[6], Strategic Option Development and Analysis[29], Causal Loop Diagrams[30], System Dynamics[31], the Viable

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[29] Eden C (1989). Strategic Options Development and Analysis— SODA. In: Rosenhead J (ed.), *Rational Analysis for a Problematic World*. Wiley, Chichester.

[30] Vennix JAM (1996). *Group Model Building: Facilitating Team Learning Using System Dynamics*. Wiley, Chichester.

[31] Maani K & Cavana RY (2007). *Systems Thinking, System Dynamics: Managing Change and Complexity*. 2nd edition. Pearson, Auckland.

System Model[3], Critical Systems Heuristics[27], though "*in our part of the world, which is about the uptake of technologies, they are rare beasts*".

Level of knowledge of systems thinking approaches

Nine interviewees were asked to self-rate their knowledge level of system thinking approaches as low, medium or high. One replied that it is not a term that is known. The remaining eight interviewees rated themselves as follows:

Low	Low-Medium	Medium	Medium-High	High
2	2	3	0	1

One interviewee referred to:

> "… *Community budgets, which aimed to drive cross-boundary working and systems thinking in places. But there needs to be a proper structure to this – an academic/professional learning approach. Where are the tools? Our approach is 'amateurish', you might say*".

One interviewee mentioned that "*it's tricky to find your way through*".

The above suggests that there is potential to clarify a range of systems thinking approaches available to help equip the Civil Service with the knowledge and the capability to approach issues of complexity, whether as a senior leader, 'intelligent customer', or at an operational level, in a more systemic manner to give practical support to adopting a cross-cutting approach.

Developing a variety of systems thinking capabilities in the Civil Service

As there are many established systems thinking approaches that could be applied to problematic, complex situations, interviewees were asked how this variety of capabilities could be developed in the Civil Service.

The answers ranged around the following:

- First, there needs to be a political acknowledgement that working with others is needed.

- Make it clear and understandable – enablers are needed.

- Knowledge brokering is important.

- Focus on a few cross-government challenges, decide on priorities and create consensus (some people think it's a nonsense).

- Bring in external consultants.

- Embed the training within existing programmes (Future Leaders, talent schemes, the Government Professions – particularly the Analytical Profession and Policy Profession, giving better capabilities at scale across a breadth of Government Departments, compared with sample projects with virtual teams).

- Define problem archetypes, and something is needed to help with the choice of approaches. Take a multi-strand approach: start with awareness, then select people with the aptitude using a diagnostic test (there's one from the Hay Group that can identify those people more likely to be able to practice systems thinking and systems approaches, including systems leadership), then immerse them in safe-to-fail work. Give people someone to work *with* them, not someone to mark their work.

- Take it slowly.

- The pitch is important for senior leaders and their teams. This means more than the detailed tools: it refers to the provision of an intellectual framework. This form of intellectual framework can provide an 'aha' moment for senior leaders and their teams to help them start to think differently.

A selection of notable extracts from the interview notes

> *"There needs to be an over-riding principle. Make it clear and understandable, appropriate to different levels, coalescing on a few cross-government challenges and objectives to bring it alive, opening up about risks. There can be lots of partnership meetings, yet nothing ever happens, just a talking shop. There's got to be an efficiency to it [partnership working]. Training. The good thing about the Strategic Framework Team's work is that it provides an opportunity to test – it provides that sort of mandate. Need also to be clear about the core capabilities that different teams have. The Open Innovation Team are doing rapid evidence reviews, horizon-scanning, etc. User-mapping provides a set of tools to quickly draw on. Enablers are needed. The benefits need to be articulated. You could look at the choice of areas that would benefit from this, and just a few key ones to focus on, to give added value and a sense of progress".*

> *"We have broad and shallow experts. The expertise lies in connecting, bringing together and convening, helping and so on. The knowledge brokering function is hugely important".*

> *"There's a systems-thinking course on Civil Service Learning, but it never seems a priority to do it due to other pressures. It needs to be pitched at the right level, for senior leaders and their own teams as an intellectual framework rather than the detailed tools. It's a question of pitch".*

> *"By embedding it in core development. Particularly the high talent groupings of fast stream, future leaders (grade 6/7) and senior leaders (pay bands 1 and 2). Through Civil Service Learning, but not too much effort. A bite-size training course, a 2-hour master class, access to a library of tools and celebrating good case studies. No-one ever says 'no' to a free resource! There's a User-centred Policy Design Team in MOJ. User journeys take an agile development approach. There's a Policy Lab in the Cabinet Office. You could augment a policy team with systems thinking for a 10-20-week project".*

The barriers to achieving this and overcoming them

- When civil servants don't know the policy answer to a problem, it's hard to reveal this to other actors, in case they view the Civil Service as ineffective. Therefore, building trust is vital, so it becomes more acceptable to start a systemic exploration by saying 'none of us know the answer, so let's explore the issues and learn'.

- The Strategic Framework approach needs the buy-in of central departments, in order to be linked with day-to-day working. Unless people get experience of using systems thinking in their regular jobs, there will inevitably be a gap between training and practice.

- The lack of capacity is a problem - the large scale of the Civil Service and finding the time to do learning and development. Demonstrating applicability would help.

- Some people will be resistant, so establishing an expectation amongst line managers that people will meaningfully engage with training, and learn how to apply the ideas, is important. As authors of this report, we would add the following: the relevance of a new idea to somebody encountering it for the first time is a function of the cognitive inferences they can get from it (i.e., how useful it is for interpreting phenomena) minus the amount of work that is required to internalise it.[32] Resistance usually comes from the person learning a new idea not being able to judge what cognitive inferences it will bring (because they don't know enough, early on, to do so), yet they are aware of the amount of work the training will involve (a lot in comparison with uncertain benefits!). There are two ways to overcome resistance due to lack of knowledge. First, to set clear expectations of positive engagement in training, with a consistent message from managers and peers that systems thinking will benefit the trainee's work. As long as the messages are genuine, and are not undermined by other peers, this will have the desired effect because, in the absence of sufficient knowledge to judge relevance, people tend to rely on messages from trusted others. The second way to overcome resistance is to start training with an immersive experience, where people quickly get to see the difference a systems approach can make (an example of such an experience, often used when training people in System Dynamics[31], is gaming[33]).

- The Civil Service is in crisis response mode at present (because of COVID-19), and people haven't got time for learning new approaches when they are under severe time pressure and having to grapple with a lot of uncertainty around highly consequential decisions.

- Even when there is no immediate crisis, there is a lack of time for new learning. One interviewee who focused on the issue of time said they were already working 10-12 hours a day, so adding in more would be impossible. This makes it very important to align training with people's jobs, so they can practice systems thinking on work they would have to do anyway. The more divorced the training is from everyday work, the more likely it is to be perceived as a time-consuming added extra. The authors of this report would add here that

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[32] Sperber D & Wilson D (1995). *Relevance: Communication and Cognition.* 2nd edition. Blackwell, Oxford.
[33] https://thesystemsthinker.com/let-the-games-begin/

the Systems Thinking Practitioner Apprenticeship[34] provides a way around this problem, as employers are required to give employees 20% of their time for training, and the reduction of work to accommodate this is monitored to ensure that additional unpaid overtime is not created.

- In the context of barriers to learning about systems thinking, one interviewee discussed three:

> *"Lack of time…, accountability and [a lack of] enthusiasm… It's always there as a 'nice to do' and stays at the bottom of the list.* [Interviewer: what are the potential ways of overcoming these barriers?] *There's no silver bullet for that. Making it a political priority. Have it as a Civil Service leadership objective. Encouraging and equipping those who are minded that way, through training. Bringing together like-minded individuals. Promoting best practice, case studies".*

- There are cultural barriers, as "you grow up in the Civil Service with an idea of mastery, focussed on delivery". This interviewee suggested that if a systems-thinking programme was positioned as an Organisational Development (OD) programme to enable team delivery of policy support, this would be viewed positively. This kind of OD programme would include:

> "*self-directed learning, so you understand your personal edge; then through learning sets as part of a self-directed learning programme. In multi-organisational systems – it's easy to work with an organisation as a system – with multiple organisations, achieving a purpose can be core, aligning collective purpose. There's a leap in expertise required when you take the notion of 'system' beyond one organisation".*

These replies emphasise the need for senior and political buy-in, having a Civil Service leadership objective, developing trust when not knowing the answer to something, the possibility of incorporating systems thinking approaches within existing training schemes, perhaps as an Organisational Design and Development Programme, to provide information about applicability and promoting best practice and case studies. This learning programme has to work successfully in parallel within an existing culture of "mastery, focussed on delivery".

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[34] https://www.instituteforapprenticeships.org/apprenticeship-standards/systems-thinking-practitioner/

4.3 The link with leadership

"Doing something differently requires leadership. At a political as well as official level".

"There's a leadership conversation here. In Whitehall, people get into leadership positions because of expertise in their area. They're promoted to a team leader role and the norm operates: [i.e.] *the leader has to know more than the team, there's ego attached to it, there's status attached to it. It feels counter to what a leader taking a systems approach would be like".*

In the final topic of conversation in the interviews, the interviewees were asked to think about the implications of addressing cross-cutting priorities for the style of leadership needed.

Leadership skills for cross-cutting problems

Interviewees were asked what leadership skills are needed to deal with cross-cutting problems. There were rich replies to this question, summarised as follows (interestingly, some of the things in the list below could be described as virtues and not just skills):

Willing to work in a different way

Passion and commitment

Curiosity

Humility

Adding value

Can-do attitude

Openness and being open to challenge

Ability to look from a different perspective

Being able to reflect – on the how as well as the what

Strategic, bigger picture skills – be motivated by looking at the bigger picture, then motivate others

Confidence – in terms of responsibility for policy areas, communication, sharing and persuasion

Acknowledgement that one cannot do everything on one's own

Interaction, negotiation and communication skills

Influencing skills

Willing to collaborate – Bring people in to add value; to help find more comprehensive solutions. Partnership-building skills. Interpersonal skills. Networking. Bringing leaders from different departments together (formally and informally). Coaching, facilitation and bringing people together to allow conversation to build. When the conversation becomes challenging, inject a question or summarise.

Listening skills – listening and sharing viewpoints

Thinking creatively and see how problems interact with other issues

Identify areas of shared interest and what falls into the gaps between responsibilities

Vision-setting. Convene to achieve an outcome, with a known end-point in mind to enable navigation.

Keep enthused and on task in sharing the goal. Unleash enthusiasm with support from the top

Risk-taking

Empowering style (the opposite of command and control)

Championing expertise and professionalism, rather than doing things instinctively

Customer-led service; citizen-focus; outcomes for the public

Political (small p) skills – awareness of context and establishing safe-to-operate conditions

Systems Leadership skills

Having the time

Resilience (it's hard)

Keep plugging away – it's about behaviour change

Evidence, data, evaluation

Willingness and ability to work between and across boundaries

Shared incentives

Understanding and respecting various government pressures (ideally, experience of more than one government department)

Understanding the merits of the approach

Recognising power over resources and doing something about it

Project delivery and design skills

Analytical skills - analytical thinking

Walking on water!

Knowledge of systems thinking

Knowledge of problem structuring approaches

The above two items have been separated from the other skills and virtues to emphasise them, as they represent the intersection between systems thinking and cross-cutting leadership (or *systems leadership*). This intersection between systems thinking and systems leadership is of current interest in the public sector.[35]

Also, there were a few replies about what is specifically *not* useful (characteristics that would represent barriers to leadership on cross-cutting problems):

Not controlling

Not sticking rigidly to a plan

Not being territorial

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[35] Hobbs C & Midgley G (2020 forthcoming). *How Systems Thinking Enhances Systems Leadership*. Think piece about making systems leadership a lasting norm in the public sector. Commissioned by the Open Innovation Team of the Cabinet Office for the National Leadership Centre.

"We haven't got all the answers, but could be willing to hear the voices of other perspectives".

The above list indicates that many personal qualities contribute to defining a flexible, adaptable leadership style to help address cross-cutting priorities: a high likelihood of being able to convene, collaborate and inspire, combined with a knowledge of systems thinking and problem structuring approaches. At the same time, not being territorial, controlling, or sticking rigidly to a plan are features of the required leadership style.

You need "an ability to see the bigger picture, beyond your own area of work. Some problems seem to be all about you, [and] you need to think creatively and explore how they interact with other issues. This creates a bigger issue, but then drawing in others to help in order to find more comprehensive solutions to the problem".

Constraints to taking a different approach to leadership

The constraints to the Civil Service taking a different approach to leadership mostly cohered around departmental loyalties:

"Yes, we belong to this department or Minister. We have to think about the priorities of our department or the Minister".

Of course, departmental decisions do have to be made, so boundaries are useful. From a systems perspective, it's always important to remember that every boundary simultaneously enables one thing while constraining something else.[36] If people try to remove a constraining boundary without accounting for what it enables (either by deprioritising that thing, changing it, or finding another way to enable it) the system will either resist change or the constraint will be lifted at the expense of what was previously being enabled.

'Belonging' to a "department or the Minister" is all about accountabilities as well as boundaries: if line managers and politicians are not on board with taking a more systemic leadership approach, it is unlikely to happen. Indeed, leadership of any kind is difficult when accountability is interpreted as doing as one is told rather than exercising one's initiative and keeping line managers informed. Russ Ackoff, a famous systems thinker in the USA, once wrote about training the leadership in a major corporation in that country[37]: each layer of leadership below the CEO said that they could only use the ideas if their immediate line managers allowed it. After training each set of leaders in order of increasing seniority, and hearing the same story each time, Ackoff finally got to the CEO, who said he could only set a systems approach in motion if his subordinates were on board with it, as CEOs who impose counter-cultural initiatives get into trouble! Clearly, none of the CEO's subordinates had

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[36] Midgley G and Lindhult E (2017). *What is Systemic Innovation?* Research Memorandum No.99, Business School, University of Hull.

[37] https://thesystemsthinker.com/why-few-organizations-adopt-systems-thinking/?fbclid=IwAR1q_RU7oocWo2hQnxIaq-brirNtoVJ-lediQZKq_P0xrHZnqH4rpqs_8e8

even shared with him their desire to use a systems approach. There are actually three morals to the story, and all are relevant to the Civil Service:

1. There is nobody who feels free of accountability, and it's a question of how to exercise leadership where you are, and take others with you, rather than waiting for senior management to make decisions;
2. Accountability works in both directions: while line managers have the authority to say 'no', subordinates have the ability to sabotage[38] initiatives, or just deprioritise them, if they are not fully on board;
3. The accountability constraints people feel are often mistakenly identified with particular individuals who are thought of as obstructive, when actually it's the organisational culture (the wider system) that is the problem – line managers say 'no', subordinates deprioritise and sabotage, and people wanting to take an initiative hold back because there are wider, unspoken assumptions about what is 'normal' and 'acceptable' – in the absence of a crisis to force a change, it requires dialogue and collaboration across the organisation to establish new norms.

One interviewee pointed out that there are already different leadership models within the Civil Service, and it's difficult to see how hierarchical chains of line management would fit with a systems approach. Another said that the Civil Service reflects the leadership style that has gone before.

Other constraints refer to the weight of work, forcing a tendency towards insularity because anything in addition to handling the normal departmental workload is too much. It is difficult to find the time to be proactive (creating, designing and developing new ideas in partnership with others) when people are in fire-fighting mode.

Also, there is a set of more particular issues that need to be accounted for:

- Media pressures that result in a reactive culture.
- Constraints on what is allowed by way of education in the workplace, and an amount of hubris.
- Scepticism, and what one person called 'initiativitis': lots of new things come 'down the pipe' at civil servants, so people can become resistant to change.
- The Civil Service performance system was also mentioned, with people being expected to move around. This has two effects: people go after 'quick wins' on their CVs, and handling wicked policy problems that require a systems approach is unlikely to deliver these, so being given one of these problems is not great for career advancement; and long-term systemic initiatives can be disrupted by staffing changes.

Ideas for ways to overcome these constraints included:

- Young recruits inter-changing with senior civil servants.

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[38] Ho CH (1997). *A Critical Process for the Evaluation of Methodology*. Ph.D. thesis, University of Hull.

- Secondments with local authorities, with people going into placements where they can get experience using systems approaches.
- People getting experience planning for systemic projects, and especially knowing when to 'open up' (explore the problem situation or options for action) and 'close down' (make decisions on methods when the problem situation has been explored, or decide on actions).
- Experimenting with different leadership models.
- Use the Civil Service awards system to include credit for different approaches to leadership.
- Open more senior posts for analysts with systems thinking skills.
- Appoint champions for shared priorities and embed that championship in what's expected on a day-to-day basis, so it is badged as core work and not as a new initiative.

"There are plenty of leaders who demonstrate the good stuff – networking and collaboration – but politics is very competitive. It's entirely about 'my department'. Finding the space to operate collaboratively is hard, [but] it's not an adjunct to the day job: unintended consequences should not be ignored".

"Make sure the politicians/Ministers are comfortable with it. It may look very odd to them. There is scepticism. There's a binary here: Whitehall tells you what to do, and you have to fight them to get to moving from a hierarchy to a circular way of working. It's important not to conflate accountability with responsibility. You can work in a circular way".

"What's needed is encouraging champions for a shared priority, not just a departmental priority, embedded in the soft and hard culture. It needs to be embedded within what's expected on a day to day basis. A problem is 'initiativitis' – User-Centred Policy Design, agile, Public Service Agreements. The challenge is – why is this different? …It needs to become 'the way we do things round here': do you badge it as a new initiative, or just how the core work is done?"

Disadvantages in taking a different approach to leadership

One interviewee envisaged no disadvantages, explaining that the Civil Service leadership code is good, and that the Civil Service is constantly evolving and testing thinking.

However, another interviewee said that it would be disadvantageous if there was a lack of ability to prioritise, so thought it best to focus on one or two priorities.

A danger was noted that this approach to leadership could come to be seen as the *only* way. This would then have negative consequences in situations where a single-department approach is sufficient: time could be wasted drawing in people from other departments when, on that issue, there are no major systemic effects. Likewise, one person said it could be a wasted effort to try to institutionalise systemic leadership in some areas where policy is

more dependent on Ministerial judgement than anything else. A pragmatic application is therefore needed, rather than a dogmatic one.

A comment was made that some people may find the approaches stressful in practice: a low appetite for risk and an intolerance of uncertainty are not really compatible with the open, facilitative and exploratory style of leadership required to make progress on cross-cutting priorities. Again, reward systems were seen as important here: people can be encouraged to engage in the step-by-step learning required to get used to operating with a facilitative leadership style, even if this isn't their natural inclination when they start. We would add that the promotions process could also be useful: when people see others being promoted for the ability to lead on cross-cutting issues, it will normalise the approach and encourage others to step up.

It was noted that there is a risk of confusion at team level – leaders need to bring people along with them, as some people are resistant to change.

These comments on possible disadvantages provide further insights into the positioning of a strategy to embed systems thinking approaches into the culture of the Civil Service and to explore its link with systems leadership.

> *"There's a well-being perspective. People need boundaries in order to feel comfortable. It stresses people out when boundaries get too broad, really. I've tried matrix management in previous roles – it works well on paper, but is really stressful in practice".*

> *"…mitigate the risk of gold-plating something that works sufficiently well. The challenge will be to show the circumstances in which a systems-thinking approach might offer better policy outcomes, and not to be prescriptive about when and where it should be used, while also encouraging its take-up. You need leaders who can identify where systems thinking approaches are worth spending more time on to add value. The pitch of it is important. The risk is that it is seen as the answer to everything… Getting too focused on demonstrating that you are meeting the requirements of a particular methodology can over burden a team and their resources, when they would be more nimble and productive by applying only certain tools and techniques".*[39]

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[39] It should be noted that slavish adherence to the requirements of a single methodology was an issue in the 1980s when a lot of systems thinkers believed they had the one best approach, and defended it as such against advocates of other approaches. However, in the late 1980s and early 1990s, this attitude came to be replaced by a more relaxed methodological pluralism: the belief that different approaches are useful for different purposes, and it is legitimate to mix methods. Initially, when methodological pluralism was first proposed, the advocates of narrower approaches defended their practices against it, but methodological pluralism won the day. It did so because mixing methods gives people a more flexible and responsive practice than adherence to a narrower methodological approach, and this way of working aligned well with what the most successful practitioners were already doing. For a recent book on methodological pluralism, see Jackson's *Critical Systems Thinking and the Management of Complexity*. For a book that looks in depth at the theory, methodology and practice of mixing methods, see Midgley' *Systemic Intervention*. Having pointed out that things have moved on

"You need a multi-leadership model that is nuanced – finding a balance between two poles, rather than shifting from one to another".

Opportunities for taking a different approach to leadership

Our final question asked interviewees to identify opportunities for taking different approaches to leadership in the Civil Service. In response, most of the interviews drew together previous comments already made, but there were also a few new ideas too, as follows:

- Through self-evaluation methods, so people get used to an approach where they try to be better all the time.
- A clear set of Government-wide priorities are needed, and systems approaches could be targeted at these.
- The Future Leaders Scheme, people moving up in the organisation, tapping into people as they start, who are looking to expand their knowledge and capabilities. This could be enabled through the Civil Service Talent Programme: a senior leaders' scheme for Deputy Director to Director level.
- Share opportunities for training: there are people with a natural interest in these areas, so support them in learning, and give them scope to apply it in practice.
- An opportunity to take a different approach to leadership is provided in two ways: either by the policies and politics of the situation asking civil servants to do it, or individuals can take the initiative and just get on with it.
- Yes – individuals are taking different approaches to leadership. It's an uncomfortable experience that takes bravery, people are doing it: it's not institutionalised. It's not embodied in senior leaders.
- One interviewee said that there are huge opportunities in taking a different approach to leadership that could improve job satisfaction and produce better leaders who are able to deal with complex issues.
- Taking a systems approach can help with exploring 'what's the problem' in a granular way. Thinking through problems in a structured way is very important for policy-making, and it is during this process that negative side-effects of current and potential-future policies can be identified and addressed.

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since the days when people put meeting the requirements of a particular methodology above pragmatically meeting the needs of the policy task at hand, a note of caution should nevertheless be raised: if the interviewee thought that methodological 'preciousness' could be a problem, this suggests there may still be purists around, advocating their 'one best way'. To counter such preciousness, it will be important to ground the systems thinking that civil servants learn in the kind of approach discussed in this footnote, with a strong advocacy for methodological pluralism.

A link between systems leadership and a systems-thinking skills-base

There was a final optional question for those interviewees who had some knowledge of systems thinking or systems leadership, or who had referred to it in their interview, and when there was time remaining to do so: is there a link between systems leadership and a systems-thinking skills-base? Four interviewees answered this question as follows:

> *"I would have thought so. There's a fuzziness to the whole debate that needs unpacking".*

> *"What is systems leadership?* [Interviewer: there's a lot of interest in this and different definitions, just evolving, as well as system<u>ic</u> leadership…explained further] *People have an innate understanding of the world as a system, with no formal framework. They are doing it innately. Concentrate on the ones who can't do it - would it lead to them being better leaders and managers? Finding the time and space to work together; the benefits take a long time to accrue".*

> *"It's two sides of the same coin: there's a lovely symmetry between them. They can be distinctively different as academic practices. Systems thinking has helped with my own leadership practice".*

> *"That's a great question. What's absolutely required for both is an understanding of the concepts of holism and what that means – you need no further knowledge than that to be an intelligent customer of systems thinking expertise. You have to collect multiple perspectives and try to represent complex situations somehow, but still retain the complexity. You need that awareness, otherwise it's not systems leadership".*

These answers reflect the broader challenge that – despite a number of years of references to systems thinking and (more recently) systems leadership in the public sector – the connectivity between a systems-thinking skills-base and references to 'systems leadership' have yet to be clarified: this remains a fruitful area for further exploration.

The variety of suggestions and observations made during the interviews are drawn together as emerging themes in section 6 of the report. This includes aspects to be covered and those to be avoided in further developing the strategy for embedding systems thinking capabilities in the Civil Service.

> *"Mistakes have been made – leadership within a system rather than leaders with systems thinking capability".*

> *"Deep expertise is needed* and *co-ordination, which is where systems leadership is needed as a role".*

5. The Systemic Perspective Mapping and Viable System Model knowledge exchange initiative

The Systemic Perspective Mapping and Viable System Model initiative - summary

The format of this initiative was fully designed by Pam Sydelko[1] as part of this project. It was arranged to take place over a two-day period (23-24 March, 2020) by the Strategic Framework Team/Systems Unit, at rooms in the Cabinet Office. Unfortunately, due to COVID-19 restrictions, the initiative had to be postponed on 16 March.

It is hoped that this knowledge exchange initiative may secure future funding in order to take place at the earliest possible opportunity.

6. Summary of emerging themes: aspects to be covered and those to be avoided in further developing the strategy

Emerging themes

These 12 interviews have yielded a rich resource of ideas and suggestions about constraints, opportunities and possible disadvantages regarding the aims of the strategy in relation to cross-boundary working, systems thinking and leadership. The interview data were also analysed on a thematic basis, providing further insight and guidance about aspects to be covered and those to be avoided in further developing the strategy:

Timescales

Examples of summarised comments referring to timescales are as follows:

- There is pressure to solve problems in short time-frames for announceables
- There is a political time-frame for success to be achieved
- There is a habit of working at pace, while knowing that complex issues will take time to be resolved
- Politics often demands that broad issues are solved in a short time, while science asks narrower questions for the longer-term.

This suggests that timescales ideally need to be longer for cross-cutting work to be given the best chance for success. It is also of interest that the interviewee who made the latter comment about a mismatch between the scope and timeframes of politics and science also highlighted a need to bring together academics at the science-policy interface to work on this issue.

The existing Civil Service culture

A number of comments gave insights into the culture of the Civil Service, which are relevant to this project, as follows:

- The phrase 'enthusiastic amateurs' or 'amateurs' was referred to by four of the interviewees
- There is a tension between cross-government working and silo-working (although this is not necessarily a bad thing)
- There is a richness and granularity of cultural norms and leadership models within the Civil Service
- There is a history of cross-cutting work already within the Civil Service – this is not new
- There is already much good practice to draw upon from within the Civil Service
- Good outcomes are needed for the public
- Senior buy-in is needed in order to be successful with something – both political and managerial
- The Treasury book guidance needs to be compatible with taking a systemic approach

- Competency frameworks or success profiles represent an opportunity to influence a message about expectations as regards cross-cutting work
- People could be promoted who have the qualities needed to shift the culture and mindset.

This apparent richness and granularity of the Civil Service culture is also its strength, providing opportunities to draw on existing good practice, review guidelines for individuals' skill-sets and opportunities for promotion, revise expected procedures as embodied in the Treasury books, continue to draw on outside expertise where needed, and also to learn to live with and perhaps even celebrate a 'healthy' tension between departmental and cross-cutting work. An emphasis was also put on the need for a focus on good outcomes for the public.

Communication

Communication is seen as important in relation to systems thinking and systems leadership:

- What do the terms 'systems thinking' and 'systems leadership' mean?
- How should they be framed in communications?
- Something is needed to help with the choice of approaches
- Translate systems-thinking approaches, don't re-invent them
- Improving conversation is needed – within policy teams, at the science-policy interface and in relation to public dialogue.

This implies that there needs to be greater clarity and consistency about the terms used: clearer explanations provided of different systems thinking approaches, and conversations need to be allowed to take place on this subject. A communication strategy would be an important element of enhancing systemic capabilities for the Civil Service.

Also, adopting 'critical systems thinking' or 'systemic intervention' as the label for the approach to systems thinking in the Civil Service (or inventing a new label, if desired) will help in providing a coherent 'story' about what systems thinking is without losing the rich diversity of methodologies and methods. This is because both 'critical systems thinking' and 'systemic intervention' provide a unifying brand while welcoming methodological pluralism.

Evidence

An interviewee who has considerable experience of evidence-based analysis for issues of complexity suggested:

- A process of synthesis is needed as well as analysis in order to help with sense-making
- Evidence itself needs to be gathered in a systemic way to inform a more systemic approach.

There are thus different ways of dealing with evidence-based policy making, and this calls into question what counts as evidence, and how can it be made more systemic? For example, systems thinkers view information about stakeholder perspectives as part of

evidence, and explorations of possible solutions are as important in the evidence base as understanding problems.

Learning about systems thinking

Not surprisingly, the theme of learning was a strong one throughout the interviews, helping to identify opportunities for how learning about systems thinking could be incorporated in the existing strategy (if not there already). In summary:

- A number of interviewees referred to subjects or issues about which there are books or other references (e.g. changing conversations and problem structuring), so it seems there is a demand for something as simple as a reference list to help guide interest amongst existing senior civil servants
- Incorporate training through the HR/training offer
- Teach people the fundamental concepts underlying cross-boundary working first, or you'll just end up with bigger silos
- Knowledge brokering is important
- Learning from others is important: a compatibility between IT equipment would help with this
- Link learning with existing programmes: e.g. Future Leaders, talent schemes, learning and development for the government professions, the Civil Service leadership group
- The systems thinking programme could be interpreted as an Organisational Design and Development Programme
- Learning has to take place in the context of not knowing the policy answer (which is the case for issues of complexity): this requires the building of trust between different actors in the system, perhaps thinking of different options, and working together to choose one.

As well as the suggestions made above for learning about systems thinking in various ways, the importance of building trust between people when not knowing the answer is crucial to allow the systems thinking capability-building strategy to progress in an appropriate way.

Rewards

Reference was made to:

- The lack of formal rewards for cross-cutting work, with a suggestion that this could be addressed through the Civil Service Awards
- A lack of opportunities for promotion if wishing to pursue a wider approach than is normal. In particular, people who may be called 'bigger picture' analysts may be frustrated by the restrictive nature of progress, both in terms of ambition for themselves, and ambition for the achievements of the work in improving outcomes for society.

The lack of such rewards is thus demotivating, and perhaps discourages cross-cutting behaviour amongst capable people at a time when encouragement and incentives are needed.

Warnings

All interviewees were, without exception, generous with their advice, and this included a number of what may be termed 'warnings'. These are as follows:

- Do not conflate accountability with responsibility. *"Whitehall tells you what to do, and you have to fight them to get to moving from a hierarchy to a circular way of working. It's important not to conflate accountability with responsibility. You can work in a circular way".*
- There can be scepticism, or 'rolled eyes', if approached as another well-intentioned initiative: this needs to become core to the work.
- Don't throw the baby out with the bath water: there is already much good practice in the Civil Service, and existing methods are useful for some things.
- This is not (yet another) transformation project; it can be presented as being about small changes. It is to be noted that the myth that systems thinking has to be about changing the whole of society needs to be tackled with a message about exploring and setting boundaries – systems thinking *can* be used for fundamental change *if* that is needed, but more often it is used for much smaller-scale improvements, which themselves can also add up and develop into something significant.
- Include politicians where possible. Not only will this help to give legitimacy to the strategy, but it will also head off possible longer-term problems: if civil servants give policy advice informed by systems thinking, and politicians then make unsystemic decisions, both parties could be dissatisfied – 'learning together' is a useful principle, when it can be managed.
- The strategy needs to be outward looking, beyond inter-departmental working: a lot of learning can be generated between national and local government, and many systems thinking projects will require the involvement of stakeholders (and local communities) beyond Westminster, so how this is to be normalised needs to be considered.
- You can get enthusiastic amateurs with a toolbox. This emphasises that professional standards are needed.
- Provide advice about when systems thinking is needed, and when it's not needed, as well as how to choose between different approaches.
- You can't necessarily predict, and you have to think about the social element.
- If you articulate something around boundaries, you can just create bigger silos because you haven't got the understanding in place behind what thinking about boundaries means. So, simply widening the boundary beyond a single departmental agenda, and setting a new boundary that links a few agendas together, will just create a bigger silo if it's not understood that, in each project, *different possible boundaries* (and associated purposes and values) need to be *explored*, which will

lead to improved justification of the boundaries that are chosen, and these boundaries will be different for each piece of work.[40]

The above advice has helped to provide a good sense of perspective to the initiative.

All of the above themes, including the analysis of the interview questions, has helped us position our advice about how to enhance the existing strategy, leading to ten proposed workstreams.

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[40] Some useful books on boundary exploration include Ulrich's *Critical Heuristics of Social Planning*, and Midgley's *Systemic Intervention*.

Aspects to be covered:

The evidence from the interviews would suggest positioning the following ten workstreams as core business for the Civil Service:

Key proposals: ten workstreams

Workstream 1: **Seek/secure Ministerial/senior backing**, including the possibility of catalysing an All-Party Parliamentary Group (APPG) for longer term traction.

Workstream 2: **Develop Civil Service principles** for adopting cross-boundary perspectives, through help from one of the Government Professions.

Workstream 3: **Consider the interface between systems thinking and the Treasury guidance books** – e.g. Green book review and the scope for a systems-thinking book.

Workstream 4: **Consider 'outwardness'** – Working with local government; looking elsewhere for examples of good practice; and thinking about wider stakeholder and community engagement as a normal aspect of projects.

Workstream 5: **Adopt rewards/incentives** for cross-boundary working.

Workstream 6: **Design an aligned internal Communication Strategy**: this would develop as appropriate as the workstreams are explored.

Workstream 7: **Widen the interpretation of success**: Success can be interpreted as achieving 'systemic collaborative learning' when embedding systems thinking into the culture is required.

Workstream 8: **Co-design (with policy actors) authoritative and accessible Systems Thinking resource materials** – e.g. a reference list, an information hub, access to a network of expertise, induction training.

Workstream 9: **Incorporate systems thinking in Civil Service Leadership training**: Check the feasibility of incorporating systems thinking as an Organisational Design and Development (ODD) initiative in the context of the *core business* of the Civil Service.

Workstream 10: Examine the feasibility for **compatible IT systems** to help people from different departments work together with greater agility (e.g. MacBooks).

Aspects to be avoided:

A command and control style, fast pace, short-term project delivery, solutionism (not every problem can be solved once and for all; some just have to be managed) and 'initiativitis'.

7. Conclusion and recommendation

This research forms part of a broader movement which has, relatively recently, begun to explore the scope for effective action in the context of complexity and public policy.[41] The good news is that there are many well-established systems thinking approaches to help address complexity and stakeholder engagement, and to develop ideas for improvement in a more systemic manner. They are not the *only* ways to approach policy issues, but they do provide some useful and important resources.

It is thus important to retain the full *variety* of approaches, and not to favour one or another approach. Accordingly, a number of systems thinkers have already grouped approaches in different ways[42], and have talked about how to mix methods in response to penetrating explorations of problem contexts.[11] It would be worthwhile looking at the potential for adopting either '**critical systems thinking**' or '**systemic intervention**' as a branding – or, if there is the willingness and resources to go one step further, it would be a ground-breaking project to develop **a bespoke approach** (embracing methodological pluralism) designed especially for the Civil Service - fit for use now, and adaptable into the future.

Co-designing emergent practice as a core business of the Civil Service

'Emergent practice' is appropriate under conditions of complexity, and the context in which systems thinking capabilities are being built in the Civil Service is clearly complex. While some workstreams have been suggested above, collaborative learning is an ideal mode for moving forward with them. This will help the Civil Service design and adapt its strategy in an ongoing manner while it builds the skills base to address complex priorities as a core aspect of its day-to-day work.

The important thing is to co-design an approach that is accessible and of practical relevance to the needs of its user(s). There could be a Civil Service approach to systems thinking, which draws on existing Civil Service knowledge and expertise, reflecting also the variety of responses needed to serve different purposes – covering taster sessions, induction training, the intelligent customer role, securing senior/political buy-in, and the development of deep expertise.

The aim would be to co-design and establish such an approach as part of the core business of the Civil Service.

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[41] e.g. Geyer R & Cairney P (Eds.) (2015). *Handbook on Complexity and Public Policy*. Edward Elgar, Cheltenham.

[42] As mentioned in footnote 39, Jackson's book *Critical Systems Thinking for the Management of Complexity* presents the most up to date work on this.

Conclusion

This short project has sought evidence, in the form of the views of senior civil servants, in order to enhance the strategy for embedding systems thinking approaches into the culture of the Civil Service. The idea is to complement the existing initiatives and aspirations of the Systems Unit in the Cabinet Office, especially in light of the COVID-19 pandemic, which is likely to sharpen awareness amongst both Ministers and civil servants of complex interconnectedness and the necessity of getting to grips with it in policy making.

The Systems Unit clearly needs to be able to retain a strategic overview of its crucial work on improving capabilities for addressing complex priorities. Within the context of COVID-19, everybody is in a position of learning at present. Until the immediate crisis has subsided, the systems thinking strategy and the proposed workstreams ensuing from this research project might need to be put on hold. Alternatively, the urgency of this wicked problem could actually necessitate moving the strategy and workstreams to centre stage.

Whatever happens in the short term, the Systems Unit's longer-term role, once the immediate crisis has passed, will probably involve helping government get to grips with the ongoing changes to society that will unfold as a result of the pandemic, as well as with the identification of new opportunities for renewal. As the Cabinet Office starts engaging with these opportunities for renewal, they could become a vehicle for the building of the capabilities discussed here, and for putting systems approaches to work.

This need not be accompanied by a lot of fanfare (indeed, given the concerns about 'initiativitis' expressed by some of our interviewees, fanfare could be counter-productive), but instead could be approached in a low-key style, taking as given that it is part of the accepted core business of government. The proposed **Systems Thinking Capability Programme** would be a core business initiative handled by the Systems Unit, fitting well as a form of *systemic collaborative response* to the aftermath of the pandemic and many other complex issues.

The systemic collaborative response

In relation to a Systems Thinking Capability Programme, the systemic collaborative response needs to continue to sit 'above' individual departmental concerns (although the latter still remain highly relevant). It needs to avoid 'solutionism' and focus on:

> **How we articulate problems collaboratively and systemically in terms of what matters to society, exploring potential ways of addressing them by also drawing on specialist expertise and a range of evidence.**

In order to give both momentum and sustainability to the continuing work of establishing systemic capabilities within and beyond the Civil Service, in terms of the use of a variety of established systems approaches to explore the purposes, values, relationships and

perspectives that are needed to help tackle complex priorities, we propose just one recommendation coming out of this project:

That the Cabinet Office sets up a small group of key people to consider the project's 10 proposed workstreams:

> **To explore and set up each workstream, if feasible, as a mid to long-term project, with a view to terminating each workstream once explored, established or completed as appropriate, until all ten workstreams have been fully addressed.**

If this single recommendation is of interest, the make-up of this group could be the subject of discussion. It is suggested that the Systems Thinking in Action Group (or STAG for short) could include an invitation to some of those people who were interviewed, alongside other potential key people from the Civil Service. It might be valuable to involve just one or two highly experienced systems thinkers from outside the Civil Service. However, the group needs to be a small one – ideally no more than 10 people in all – if it is going to be a forum for the creative development of ideas and not get bogged down by the formalities that are sometimes associated with committee work. STAG would have a clear mandate to consider all ten workstreams, and decide whether and how to initiate them, drawing in a larger network through sub-groups for project work as appropriate. An academic-professional learning approach remains key to the long-term success of this initiative, to avoid the stigma of being regarded as 'enthusiastic amateurs'.

If this proposal is of interest, the Systems Unit would be instrumental in setting up STAG, and would also be in a position to encourage and facilitate progress, without becoming involved in the detail. STAG would first consider the workstreams and the level of ambition considered to be most appropriate, identify whether anything else is missing, and then pursue the workstreams as relevant.

The proposed workstreams (which can be referred to on page 44 and also in the summary diagram on page 49) are clearly 'laddered' in terms of ambition:

Highly ambitious:

Considering all of workstreams 1 to 10 in addition to the existing capability-building strategy would be highly ambitious and would be the most comprehensive approach to embedding systems thinking into the culture of the Civil Service to address complex cross-cutting issues more effectively.

Ambitious:

Considering workstreams 4 to 10 would be ambitious.

Modest, pragmatic ambition:

Considering workstreams 8 to 10 would be a modest, pragmatic ambition.

It is hoped that this short project has yielded helpful, practical signposting towards Civil-Service-based ideas of developing the crucial systems thinking and cross-boundary work to improve capabilities for addressing complex priorities. The report you are reading is being handed over to the Cabinet Office at a time when it has been most tragically illustrated that interconnectivity and dependency between policy areas matters a great deal in the real world.

[Leadership opportunities are] *"Potentially huge. To develop an ability to better deliver outcomes to the public which are tricky and complex. It's motivational to be given the ability to make a difference. It could improve job satisfaction and have intellectual heft, using different ways of working, developing your own skills and becoming a better professional, producing better leaders able to deal with complex issues".* Interviewee

REPORT TO THE SYSTEMS UNIT
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OF THE UK GOVERNMENT

Lines of inquiry:	Emerging themes:	Proposed workstreams:	Recommendation:
Cross-boundary perspectives as a cultural norm within the Civil Service?	**Timescales** – need to be longer **Existing Civil Service culture** – not just one **Communication** – what does this mean, how is this framed? **Evidence** – how can it be made more systemic?	1. Seek/secure Ministerial/senior backing 2. Develop Civil Service principles 3. Consider a Treasury Book review 4. Consider outwardness, inc. local government, good practice examples and think about stakeholder and community engagement	**Systems Thinking Capability Programme** That the Cabinet Office sets up a small group of key people to consider the project's 10 proposed workstreams:
Building a variety of systems thinking capabilities in the Civil Service?	**Learning about systems thinking** – building trust when not knowing the answer: learning about a range of systems thinking approaches in a way that is tailored for different purposes	5. Adopt rewards/incentives for cross-boundary working 6. Design an aligned internal Communication Strategy	To explore and set up each workstream, if feasible, as a mid to long-term project, with a view to terminating each workstream once explored, established or completed as appropriate, until all ten workstreams have been fully addressed.
Implications for a style of Civil Service leadership?	**Rewards** – lacking for cross-cutting work **Warnings** – retain a sense of perspective	7. Widen the interpretation of success to Include 'systemic collaborative learning' 8. Co-design systems thinking resources and consider induction training 9. Incorporate systems thinking approaches within leadership training 10. Examine compatible IT systems	

Diagram 1: Diagrammatic summary of the lines of inquiry, emerging themes, proposed workstreams and the recommendation