



Cabinet Office

# Cabinet Office Areas of Research Interest

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## Foreword by Parliamentary Secretary (Minister for Implementation)

The Cabinet Office is the corporate headquarters for government in partnership with No.10 and HM Treasury. The department supports the Prime Minister and ensures the effective running of government.

We take the lead in critical policy areas and work across government on a wide range of cross-cutting issues such as housing, modern slavery, homelessness, digital and industrial strategy. We conduct research in support of our objectives in these areas, much of which is undertaken internally by Cabinet Office analysts or in partnership with analysts in other government departments.

We commission research from external organisations when necessary but we value the strong links to research organisations we already have in place to drive policy innovation across government – drawing on behavioural insights and horizon scanning. Policy Lab and the Open Innovation Team are bringing new policy tools and techniques to the UK Government and are founded on strong academic partnerships. However, we are also keen to strengthen and deepen these relationships, and the publication of our Areas of Research Interest forms part of our strategy to do this.

The publication of our Areas of Research Interest aims to further promote the dialogue between government, academia and other research institutions, and facilitate collaboration among experts on key policy areas. We received a positive response to last year's publication which resulted in new connections between academics and policy makers being made, and workshops exposing policy makers and analysts to the latest research in areas such as trust and digital government. We would like to build on this in 2019 and invite organisations to actively consider our latest research interests when developing research programmes.

This presents the opportunity to expand the potential policy impact of your work and help us to achieve our objectives more effectively. Our live departmental priorities may present further challenges that impact evidence requirements across these themes and questions, most notably EU Exit. We also invite you to get in touch and engage with us in areas that you already have research which are aligned to our research interests.

Oliver Dowden CBE MP  
Parliamentary Secretary (Minister for Implementation)  
Cabinet Office

## Introduction and Purpose

In response to the 2015 Nurse review of the UK Research Councils, the government accepted the review's recommendation to provide documents that set out the most important research questions facing each department. In December 2017, a first report presented the Cabinet Office 'Areas of Research Interest' (ARI), setting our research priorities for the department's work in 2017/18. This document sets out our research priorities for 2019. It represents an evolution of last year's research needs rather than a wholesale change of focus - as such there is considerable overlap.

The aim of this ARI is to accelerate engagement with external research communities working in these areas; strengthen relationships between internal expertise and external expert communities; and facilitate new research partnerships.

## CO Priorities of Research

The Cabinet Office operates at the centre of government leading to its involvement in a broad and diverse portfolio, as reflected in these ARIs, which have been grouped into the following themes:

- a) Public services
- b) Civil Service
- c) Digital innovation
- d) Electoral registration and electoral systems
- e) UK governance and devolution
- f) Measuring and responding to security threats faced by the UK
- g) Adapting to a changing security environment
- h) The role of multilateral institutions in maintaining the security of the UK
- i) Knowledge and information management
- j) Delivery of major government projects.

These themes align with the Cabinet Office's strategic objectives:

**Strategic Objective 1:** Maintain the integrity of the Union, co-ordinate the security of the realm and sustain a flourishing democracy;

**Strategic Objective 2:** Support the design and implementation of HM Government's policies and the Prime Minister's priorities;

**Strategic Objective 3:** Ensure the delivery of the finest public services by attracting and developing the best public servants and improving the efficiency of Government;

**Corporate Objective:** Ensure the effective running of the Department and contribute to the Government's cross-cutting priorities.

The following sections provide further information on each theme, setting out some of the questions that we hope will be addressed through research. These questions are not exhaustive but will act as a guide for aligning scientific and research evidence.

## Getting in touch

Should you have questions relating to this ARI please contact [co\\_aris@cabinetoffice.gov.uk](mailto:co_aris@cabinetoffice.gov.uk). If your query relates to a specific question please state its title in your email.

## Public services

### **Context:**

The most difficult challenges faced by our public services are complex and cross-cutting. Increasing efficiency alone will not be enough to tackle these challenges, nor for public services to keep pace with the continuing pressures they face to do more with less.

To that end, our areas of research interest focus on better understanding the challenges and opportunities in the delivery of public services in the future, including the demand for the public services, making more effective use of data, reducing ethnic disparities and being more diverse and inclusive, and the level of productivity in the public sector.

### **Research questions include:**

1. How is demand for public services expected to vary ten, twenty, thirty years from now? What will be the main sources of changing demand? What actions need to be taken now to best prepare?
2. What are likely to be the future delivery models for public services and how can government and society best prepare to capitalise on the opportunities presented by these?
3. How can front-line public services adapt to the challenges and opportunities presented by automation? What are the benefits and risks of adopting new technologies to deliver services?
4. How can existing research evidence be made accessible and useful to frontline services? How cost effective are different communication and engagement methods?
5. How can government make best use of its data to identify users with multiple complex needs? How can integrated service provision improve outcomes for these individuals?
6. How can public services contribute to reducing the ethnic disparities identified by the Race Disparity Audit's website Ethnicity Facts and Figures?
7. What is the range of productivity performance across public services in the UK? What are the characteristics of highest productivity public services and what needs to happen to raise productivity in lower productivity services? How could existing measures of public sector productivity be further improved? Which countries have the highest productivity in their delivery of public services? What lessons can the UK learn from international best practice?
8. What evidence is there, from the UK and internationally, about how best to manage organisational change in the public sector?
9. How do we develop public services that allow users to collectively create their own solutions? What role can social movement and network theories play in helping to improve public sector services and drive large scale system change?
10. What policy actions can the public sector take to better attract, recruit and retain people from a wider range of social backgrounds than it currently does? What role can the

public sector take to help other sectors also attract people from a wider range of social backgrounds?

## Civil Service

### **Context:**

Our ambition is to be A Brilliant Civil Service that helps to keep the United Kingdom prosperous and secure, supporting the government we serve in implementing their commitments and delivering high quality services for the public. The Cabinet Secretary has prioritised improving *“the capability of the Civil Service itself and the wider public service”*<sup>1</sup>, noting the importance of *“our diversity and inclusion agenda, building our capabilities in digital and commercial, and ensuring that our systems join up.”*<sup>2</sup> A particular focus of this priority is *“trying to ensure that the horizontal mechanisms we have across a government that is inevitably organised vertically are as strong and effective as possible.”*<sup>3</sup>

To that end, our areas of research interest focus on understanding how we can strengthen and transform the Civil Service as an organisation so that it can tackle current and future challenges and opportunities such as diversity and inclusion, staff engagement, rewarding and retaining talents, and career paths, more effectively.

<sup>1,2,3</sup>, Public Administration and Constitutional Affairs Committee, 13<sup>th</sup> of December 2018.

### **Research questions include:**

1. How can the Civil Service attract and retain people of talent and experience from a range of sectors and all walks of life? What actions can the UK Civil Service take to be the most inclusive employer in the UK and how should this be assessed and tracked?
2. How can the Civil Service stay abreast of, and learn from, new practices in organisational design/operating models across third, private, and the wider public sector? How can information taken from academic research feed into these developments?
3. How can we best measure staff engagement and capture their views on more complex aspects of systems leadership in the Civil Service, which move away from the simple hierarchical model of leadership down managerial chains?
4. How can we ensure effective work across government and the wider public sector to maximise efficiency and realise opportunities to develop policies that improve outcomes for citizens? What are the most effective ways - financial or non-financial of encouraging public bodies to work across boundaries, and for the centre of government to coordinate policy making?
5. How can the Civil Service build career paths that encourage a breadth of experience and depth of expertise?
6. How can the Civil Service develop world-class leaders at all levels, who are inspiring, confident and empowering?
7. How can the Civil Service develop cost effective and flexible reward structures that attract, retain and develop the very best talent?
8. How can we ensure the all-round capability of civil servants in a changing world? What will be the best learning and development methods in the future Civil Service? What technologies should government be exploring in order to enable this?

9. How can policy makers be supported to collaborate more effectively with external experts and academia?
10. What are the implications and opportunities of demographic (e.g. ageing workforce), geographic (e.g. hubs) and technological (e.g. automation, robotics and machine learning - cognitive technologies) change for the ways in which the Civil Service is organised?

## Digital innovation

### **Context:**

Our aim is to support government and other public sector organisations in finding and exploiting emerging technologies and other innovative solutions to operational service and policy delivery challenges.

### **Research Questions Include:**

1. How can new and emerging technologies support behaviour and culture change in complex organisations?
2. How should the Civil Service best enable transfer of digital innovations from the private sector into government? How can it identify and collaborate with business leaders in other sectors of the economy who face similar technology challenges?
3. How can government increase its capacity to adapt to and exploit the next curve of innovation in digital, data and technology?
4. How should government make best use of alternative web interfaces such as voice assistants and augmented reality for supporting government services? To what extent do these technologies enable accessible digital government?
5. How should government make best use of biometrics and other technologies for government service users to prove their identities? What are the most useful applications of homomorphic encryption for digital government?
6. How should government make best use of high-performance computing resources and emerging quantum computing technology?
7. How should the government best enable its transformation work to be 'cloud native' through scalable and secure digital services?
8. How should government encourage open data publication while minimising re-identification risks (the Mosaic Effect)?
9. How should government balance intellectual property with reproducible research in order to enable efficient digital innovation?
10. How should government maintain trust and accountability in using AI and machine learning? What is the public appetite for government making use of these in decision making?
11. How should government make use of data for public good and to enable government transformation?
12. How far can data analytics software help make sense of digital information at scale?

## Electoral registration and electoral systems

### **Context:**

Our aim is to deliver electoral registration and electoral systems that are efficient, inclusive, and that work for all.



**Research Questions Include:**

1. What are the different models for encouraging wider participation, citizen empowerment, and personal and community resilience? What are the relative merits of these models?
2. Which actions by communities, civil society groups, and local and central government, would most effectively and efficiently improve the completeness and accuracy of electoral registers for all people?
3. What information, data and tools are required to support effective actions?
4. How can we ensure a streamlined registration process that is accessible to all, maximises digital opportunities, and is resilient to future change?
5. How can we build public understanding of UK democracy and governance in a way which increases participation?
6. How can we ensure a stable electoral system and a democracy that works for all, that is trusted and secure, and with minimal potential for fraud?
7. What channels and mechanisms are best served to ensure confidence and trust in the electoral system and democracy are maintained?

## UK devolution

**Context:**

The process of EU Exit presents important challenges for UK governance. We work to ensure that we have the right governance in place to support the UK government and devolved administrations.

**Research Questions Include:**

1. What structures and constitutional mechanisms can support relationships between devolved administrations and UK government, in the context of EU Exit?
2. How can we ensure devolution settlements are stable and sustainable over time and in a changing environment? What structures can facilitate this?
3. How can the interests and economies of Scotland, Wales and Northern Ireland best be supported by the UK government?
4. How can we best understand and measure the relationships citizens have with different layers of UK governance?
5. What are public perceptions of the economic, social and cultural links between the UK nations? What is driving these perceptions?

## Measuring and responding to security threats faced by the UK

**Context:**

The world is changing rapidly and we continue to see long-term shifts in the balance of global and military power, increasing competition between states as well as the threat from non-state actors. The challenges have become more complex and intertwined. We are inviting research organisations to consider our latest research interests in measuring and responding to security threats in a way that is evidence-led.

**Research Questions Include:**

1. How might we most effectively measure readiness for high-impact low-probability risks in the assessment of UK resilience?
2. How can we consistently estimate impacts across different risks, for example through use of subjective well-being indicators?
3. How can we define worst case scenarios in a changing world in which international standards are contestable?
4. How do we apply Cost Benefit Analysis to improve capability development across organisations with more and less specialised cadres of staff?
5. How do we measure performance / capability development for a risk before it materialises?
6. How might we gain evidence-based assurances about the effectiveness of capabilities linked to low-frequency high-impact events through use of experimental methods?
7. How do we make risk-reduction real at the local level where it is not realistic to extrapolate from large-scale datasets and statistics?
8. How might we compare the impacts of acute and chronic disaster risks to inform prioritisation for policy intervention?
9. How can we conduct probabilistic analysis of the likelihood of man-made risks for policy purposes where human agency is subject to particular varieties of uncertainty?

## Adapting to a changing security environment

### **Context:**

The challenges have become more complex, intertwined and dangerous as the world has become more uncertain and volatile. Domestic, overseas and online threats are increasingly integrated as adversaries develop capabilities and exploit vulnerabilities across borders and between the cyber and physical worlds. We are seeking research to help Government adapt to a changing security environment based on research and evidence.

### **Research Questions Include:**

1. How do you incentivise collective efforts to improve resilience capabilities locally (and in a context of scarce resources)?
2. Closing the window between becoming aware of a potential technical exploit and action to plug the vulnerability reduces exposure to systems compromise. How can we best apply automation across government's cyber security practices to ensure that potential exploits are addressed as quickly as possible? What are the risks and opportunities? What are the dependencies on other technology? Are there ethical or considerations in this area?
3. The world is changing at an ever increasing pace. How can we exploit opportunities from new and emerging technologies in policy-making across government; and can we capture their risks and security vulnerabilities including to government? Does our current model of developing and implementing policy require work in this agile, technology driven, environment? What changes might be required?
4. What pressures will there be on global natural resources - especially energy, food, water and critical elements - in the short, medium and long term, and with what strategic policy implications for the UK in a changing world?
5. How can the UK manage the impact of additional demand for critical elements and materials, and potential price spikes?
6. How can technological change reduce pressures on natural resources?

7. How to use technologies for communicating disaster risks to the population (covering early warning, risk information, stimulating risk reduction behaviour)?
8. How to model supply chains using real-time data to ensure effective supply chain security management?
9. How to address interactions between safety and security?
10. How do people respond to warnings of imminent crisis, and how can we best use related insights and evidence to improve public crisis communications?

## **The role of multilateral institutions in maintaining the security of the UK**

### **Context:**

Domestic, overseas and online threats are increasingly integrated as adversaries develop capabilities and exploit vulnerabilities across borders and between the cyber and physical worlds. Challenges driving security priorities include the erosion of the rules-based international order, making it harder to build consensus and tackle global threats. We are seeking actionable research to inform our future choices and policy direction in the role of multi-lateral institutions in maintaining the security of the UK.

### **Research Questions Include:**

1. Under what conditions have multilateral institutions had most effect, for example on the success of international sanctions, and what lessons can we learn?
2. Where are the gaps in multilateral cooperation on global governance, for example in cyber security and natural resource security, and what are their policy implications?
3. Is there a sustained change in the balance of power in multilateral institutions? If “yes” what would be the implications for the UK’s existing national security strategy?
4. What is the approach of global powers to multilateral institutions?

## **Knowledge and information management**

### **Context:**

Good Knowledge and Information Management is essential for good government. The challenges of the digital era are complex and diverse: mimicking a paper-based model is doomed to failure. We need to develop radically new tools and techniques to support enhanced sense-making for information exploitation in the near-term and better long-term preservation and management of historically important material for the long-term.

### **Research Questions Include:**

1. How can we best ensure that digital information remains accessible over time? For example, how can new technology assist with the migration of data between proprietary platforms at scale over an indefinite time period?
2. How can the economic, financial and social benefits of digital collaboration, knowledge-sharing platforms and information management be quantified?

3. How will trends in digital information impact disciplines e.g. history, archival research and recordkeeping? How will future historians looking back at our era and use archives of digital information?
4. How can we combine available and emergent information technologies (such as text analytics, natural language processing, sentiment analysis and semantic markup) to improve knowledge and information sharing in a public sector context?

## Delivery of major government projects

### **Context:**

Our purpose is to continuously improve the way infrastructure and major projects are delivered, in order to support government priorities and improve people's lives.

We aspire to create the best performing project system of any country in the world. We measure how well the system is performing, so we can learn important lessons and continuously improve project performance over time.

### **Research Questions Include:**

1. How do we define value, understand and measure success and identify the critical success factors of major projects?
2. What are the best front and back-end management practices and how do they influence project performance?
3. How does the governance and assurance of major projects relate to effective decision making?
4. What capabilities are needed to deliver successful major projects and how are they built and distributed?
5. How can we improve the delivery and performance of government transformation and service delivery projects?
6. How can good data help to ensure successful delivery of major projects?

Project X facilitates the use of academic research in real world government delivery. For more information see <https://www.bettergovprojects.com> which sets out the key areas of research interest for project and programme management.