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Title:
Grey Parrot Model in flight: blueprint for policy-science partnerships

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Executive Summary

Objectives: The aim of this research is to develop a blueprint for academic partnerships that policy professionals can use to develop low-cost, high-risk, and high-reward research. The objective is to develop a minimum viable bureaucratic model that is repeatable, scalable and pragmatic.

Analytic/Methodological Approach*:* We draw on the experience of three pilots of the Grey Parrot model during 2021-2023. We outline a brief review of evidence around the common barriers for science-policy collaborations and describe how these findings shaped the model and its evolution over time. In the former UK Civil Service framework for procuring research (Research Marketplace DPS), only 11% of the total number suppliers were Universities (n=442). To promote equality of opportunity for delivering policy relevant research, we procured and evaluated four separate projects. Three of those utilised the Grey Parrot model and the fourth one utilised a consultancy. This allowed comparison between the research quality and usefulness of the evidence for policy officials.

Key Findings: We find that early career researchers can deliver high-quality evidence through the Grey Parrot model. They present evidence *informing* policy decisions, whereas consultants present recommendations *shaping, or co-producing,* policy decisions. This finding may not be universally applicable and is highly dependent on the commissioning and delivery teams. Having a knowledge broker establishing the Grey Parrot model is necessary for guiding the process of negotiation and research delivery. Feedback from participants reveals that early career researchers develop their leadership and management skills – an area with limited opportunities for upskilling under traditional academic career pathways.

Conclusions:

Establishing policy science partnerships is not easy for both civil servants and scientists. To address the problem of under-represented scientific communities providing evidence for policy-makers, we created a new model for collaboration. A 360-degree feedback from all participants reveals a largely positive experience and a recipe for success is provided.

Recommendations:

Governments, public sector, and even private sector, organisations should consider the Grey Parrot model as a blueprint for delivering cost effective research. There is plenty of scope for the Grey Parrot model to reach new heights and evolve. It should be considered a starter pack to be moulded to fit the specific needs of individual organisations. In deploying the model, collaboration with knowledge brokers is essential for clearly setting out what both sides (policy-shapers and scientists) can expect both in terms of process and outputs. Both communities owe it to the public to find a shared language. Decision making impacting millions of people can, and should, be informed by subject matter experts and the latest scientific evidence.

1. Background

Scientist have historically been enamoured with policy as a way to translate their findings into real-world impact. They have shown how to develop evidence for policymakers (Choi *et al.*, 2005), how to communicate it to policy makers (Davidson, 2017), how to broker research between policy-makers and researchers (Bornbaum *et al.*, 2015; Moore *et al.*, 2018) and how to empower early career researchers to achieve policy impact (Evans and Cvitanovic, 2018). Scientific advice to government came under increased scrutiny, public interest and global debate during the COVID-19 pandemic (House of Commons Science and Technology Committee, 2021b). In the United Kingdom (UK), we focus on scientists, or academics, and "policy shapers"[1] for the purposes of this paper.

Non-crisis policy making, referred to as "business as usual" (BAU), is often delivered by small teams of junior civil servants[2]. Sometimes evidence-gathering, or even parts of policy development, is outsourced to consultants (Ylönen and Kuusela, 2019). The final briefings with policy options for Ministers, or Executive Boards, are prepared by civil servants (Jary and Bryant-Smith, 2015). Civil servants are often "generalists" - not deep subject matter experts within the policy area they are working in (National Audit Office, 2017). Despite the Civil Service undergoing many reforms (Stanley, 2013), some of the reflections from its review dating over 50 years ago still rings true today (HM Stationery Office, 1969):

"Frequent moves from job to job within the Service or within a department give "generalist" administrators proficiency in operating the government machine, and in serving Ministers and Parliament...; it often leads to the adoption of inefficient methods for implementing these policies – methods which are sometimes baffling to those outside the Service who are affected by them; and it obstructs the establishment of fruitful contacts with sources of expert advice both inside and outside the Service."

However consultants can be "generalists"[3] too - evidence suggests they experience the same imposter syndrome synonymous with academics and civil servants (Bourgoin and Jean-François Harvey, 2018). The difference is that consultants are proficient in projecting expertise and using a range of techniques (verbal and nonverbal) to manage their clients' perceptions therefore limiting challenges to their credentials or the rigour of their work (Bourgoin and Jean-François Harvey, 2018). Some efforts were made recently to replicate consultancy models within the UK Government (O'Dwyer and Parker, 2023) after criticisms that too much money was spent on external consultancies (Johnstone, 2020; Mazzucato, 2023).

Civil servants may have sporadic, or limited, engagement with scientists as part of their overall stakeholder management plan (Davidson, 2017). Despite many case studies of academic engagement in policy making (Government Office for Science, 2013), scientists feel like policymakers are not listening to their advice (Cairney, 2018), whereas civil servants are left frustrated as they are unclear how to obtain and use scientific evidence effectively (Government Office for Science, 2019).

[1] "Policy shapers" refers to Civil Servants. They prepare briefings and provide *options* for politicians to take
[2] Junior civil servants refers to administrative officers (AO) up to managers (G6) (HM Government, 2016)
[3] In management consulting, sometimes described as T-shaped experts with good communication, cross-discipline and interpersonal skills, but limited deep subject matter expertise (Hansen and Oetinger, 2001)

- Is this because civil servants do not want to engage with science, or scientists?

No. Scientific evidence has never been in greater demand (Vagnoni, 2021), yet it is also a highly contested topic (Jarman *et al.*, 2022).

- Is it because civil servants are culturally risk averse?

Perhaps. The House of Lord Science and Technology Committee concluded that one of the major obstructions to invest in government research & development (R&D) were: cultural risk aversion and procurement/bureaucracy (House of Lords Science and Technology Committee, 2022) . The committee outlined that "the civil service needs more science capability, not just in specialist roles and not only by direct employment. It needs effective processes for drawing on outside expertise." The government Finance Function outlined that "public sector organisations cannot be culturally risk averse and be successful" in its Risk Appetite Guidance Note (HM Government Finance Function, 2021).

- Is it because civil servants and scientists speak wildly different 'languages'?

Yes. Civil servants often use acronyms[4], sometimes speak in Latin, rely on cricket metaphors and communicate in a "civil service language" of its own (Public Administration Committee, 2009; Friedman, 2021). On the other hand, scientists often use technical terms that are not understood by their audience. If complex evidence is explained poorly, people who do not understand it may be afraid to ask questions so they do not look incompetent. Scientists need to improve how they communicate their findings to non-experts (Brownell, Price and Steinman, 2013; Department for Business Energy & Industrial Strategy, 2020).

A personal anecdote from the author's experience: I explained how "thermal desorption-gas chromatography-mass spectrometry (TD-GC-MS)" works to a group of 8-13 year old children. To retain the attention of the young and curious minds for over 25 seconds, I compared the TD-GC-MS to the Death Star from Star Wars. My colleague corrected me in real-time for the "not quite technically correct" description. Whilst it might sound like a trivial example, it is reflective of some of the idiosyncrasies in academia. Civil servants often exhibit overzealous level of self-correction, however the focus is usually processes. It therefore helps to have a translator, broker or Sherpa, that speaks both languages (civil service and scientific) and guides teams through a journey of meaningful collaboration.

So, we asked the question – is it possible to directly connect early career academic experts with policy officials to address policy-relevant questions? A secondary (methodological) question was can we generate relatively low-cost, high-risk, and high-reward research? Based on the Grey Parrot model and its first flight, the answer is 'yes'. Before our Grey Parrots started their first flight, we identified the most common barriers that prevent meaningful scientific engagement. Those could be broadly grouped in four themes: timing, access, knowledge and funding. A detailed description of the evidence around those themes and how it informed our approach is found in Appendix A. This paper reveals the model, approach and factors that are necessary to replicate the model. It does not cast opinions on how much the evidence informed policy decisions, but provides a 360-degree view of the experience of participants involved in the pilots.

[4] Samuel Hoskin published a database of 4,340 acronyms https://samuel-hoskin.github.io/CS-Acronyms/

2. Methodology

A total of 3 projects were funded by the Office for Product Safety & Standards (OPSS) under the Grey Parrot model to date. Two were successfully completed and the third one has been commissioned and is underway at the time of writing.

2.1. Grey parrot first flight

The first iteration of the Grey parrot model utilised the classic "knowledge broker" function as per Figure 1.

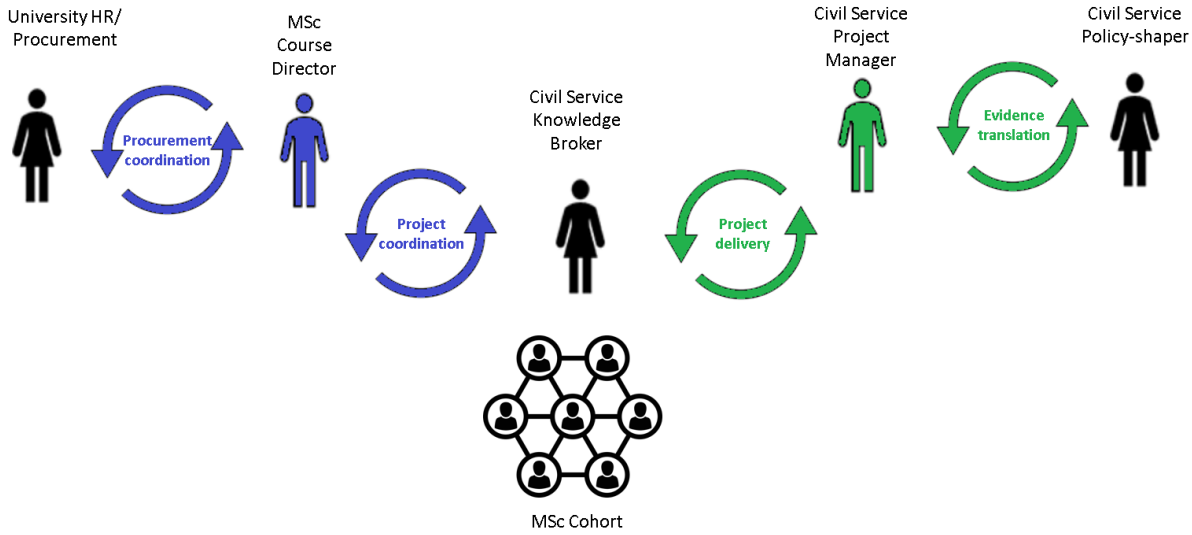

Figure 1. Grey Parrot first flight. Methodological setup of the pilot outlining the team and roles in organising the model.

Several policy relevant evidence gaps were identified as part of the UK product safety review (Office for Product Safety and Standards, 2021). One of those evidence gaps was undertaking an international comparison of product safety regimes. The Civil Service Knowledge Broker identified that subject matter expertise within the domain of risk management is required to deliver evidence and inform the research question. A project manager (G7) was identified within the Civil Service that led the formulation of the research questions and acted as the evidence-lead on behalf of the relevant policy team.

The knowledge broker conducted a search of experts across the academic field and sought Masters Course Directors whose expertise and research profile suited the remit of the research questions. The University then competitively competed the opportunity via an internal call. The successful students proactively self-organised in distributing team roles within the research project and respective research questions. Therefore the project manager's role was focused on the *content* of the project rather than the team management. Civil servants most precious resource is their time and utilising it effectively is a pre-requisite for ensuring a successful collaboration. The intensive nature and demand on the project manager made us reconsider our approach. For the second and third flights, we therefore revised our methodology and aimed to create a mini scientific consortium.

2.2. Creating an ecosystem

For the second project, the underlying aim was to create a self-sufficient research ecosystem due to the labour intensity of the project management required. We explored several different combination of options (Appendix B) for setting up the ecosystem. Figure 2 outlines the selected option in its final form.

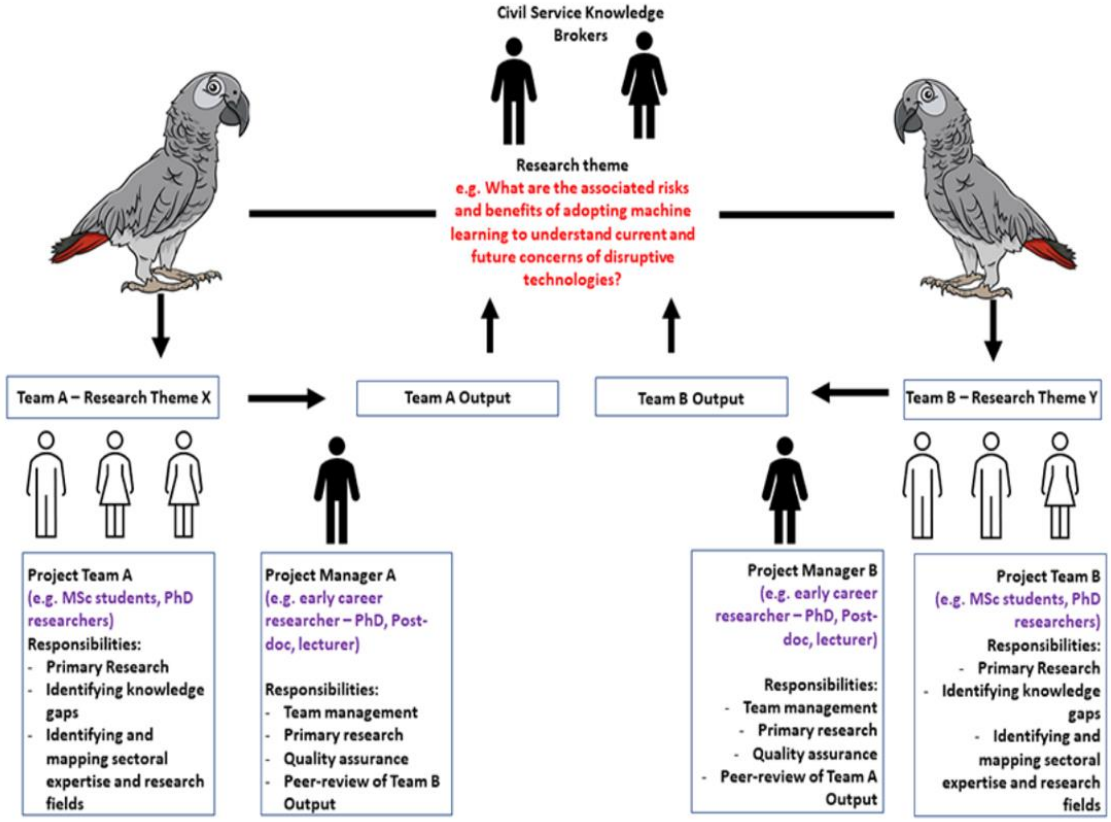

Figure 2. Grey Parrot model second iteration. The research theme in the figure is an illustration of a policymaking research question.

2.3. Process and roles

The project teams were responsible for selecting, justifying and delivering their methodology (qualitative or quantitative, literature review, surveys, interviews, experiments), search terms and sources (industry, academic, grey literature) and project management approach (agile, waterfall, spiral). They were provided with a timeline, scope, research questions and background with an initial evidence pack that was gathered by the knowledge broker to justify the commission of the research. To test the robustness of the Grey Parrot model, a consultancy with expertise in the specific domain (construction products) were appointed in parallel to deliver evidence on the same research questions.

The underlying idea for this was two-fold. First, it was to test the quality of evidence and rigour of both approaches (Grey Parrot or consultancy). Secondly, it was to diversify the ranges of expertise delivering the research. In effect, this created a cost-effective mini version of a transdisciplinary consortium. To ensure each project was methodologically and scientifically robust, an external peer-reviewer was assigned for each project to scrutinise the methodological approach and final outputs.

3. Results and lessons learned

Feedback was sought from all participants, verbally or in writing, to judge the success of the pilots. There was unanimous agreement from all sides that these projects were somewhat successful. Policy shapers received high quality evidence and early career researchers were upskilled on how to manage teams and deliver research for policymaking.

3.1. Results

The evidence provided by both Grey Parrot and consultancy teams was converging almost identically on databases and lack of existing data. This demonstrated both the rigour of the approach and conclusiveness of the evidence. In the risk management domain the two teams had diverging, yet complementary, findings which were predominantly driven by their methodological approach and communication style. The scientific teams impartially presented the research findings and recommendations and the policy teams had to shape the evidence into a policy decision. Whereas the consultancy team drafted the evidence pragmatically and in a manner that was easily applicable by policy-shapers as a decision. Two-thirds of the Grey Parrot projects delivered their final outputs with delays going beyond the projected timelines. A more detailed review of the differences in methodological approach, breadth of evidence sources, time management, quality of work and reflections from policy shapers comparing Grey Parrot versus consultancy teams is presented in Appendix B.

3.1.1. Early career researchers feedback

The early career researchers main positive observations and improvement in skills are summarised as follows:

- experience of effectively overseeing, motivating and leading teams to deliver research
- ability to apply their specific knowledge in a new area (construction products for example) therefore broadening their research skills
- understanding how to design and deliver research for policy
- competitive advantage in career progression due to experience of working with, and providing evidence for, policy-shapers
- “This project made me realise the necessary effort to bridge gaps of knowledge beyond areas as well as to manage a team”.

Their main reflections on what could be improved within the overall model:

- projects with a shorter timescale (less than 6 months) and really tightly defined scope
- if the early career researcher is undertaking a PhD, they should seek a break/hiatus from their studies during the Grey Parrot project. Pressure of delivering concurrent projects with competing timelines and timescales may lead to anxiety and delays
- project managers (early career researchers) should be able to recruit their own team and timelines should ideally be aligned to Masters dissertations. Masters students may lose focus, or motivation, and the project managers should be empowered to deploy incentives (withholding payments or adding small bonuses for over-performing) or flexibly recruiting resources (hiring or firing students or adding new collaborators).

3.1.2. Civil service knowledge brokers and policy-shapers feedback

The civil service knowledge brokers and policy-shapers main positive reflections were as follows:

- both internal (policy experts) and external (senior academics with expertise in the domain) peer-reviewers judged outputs as achieving a very high standard
- “I am impressed with the project lead and how they managed to deliver a project on a subject matter that was new to them, whilst also dealing with their team challenges, for example some international students had language issues”
- “This project highlights the benefits of this model and in utilising individuals from different backgrounds”.

The areas for improvement were outlined as follows:

- funding department should be involved in the interview process for the Grey Parrot project manager rather than completely outsourcing to Universities
- hiring the project lead early so that they are in place and can themselves recruit their own team of Masters students, or other early career academics (
- checking the project management experience of the early researcher and their other commitments, especially if the project overruns, to assess how much involvement they would need from the policy-shapers.
- having peer-reviewers integrated into the process is essential in ensuring rigour and quality.
- timely project meetings and set deadlines with clear objectives
- ensure that the project brief is suitable for the time frame and appreciate that some projects may require additional background reading by the Grey Parrot commissioners.

For example, a project concerned with risk assessments for construction products may require background reading materials on construction products as a topic. This subject matter is vast and background reading will be essential so the researchers can achieve the right balance of reading policy documents and effectively delivering the research.

3.1.3. Senior civil servants and senior academics feedback

The Grey Parrot model was made possible due to the forward looking nature of the Office for Product Safety and Standards (OPSS) research programme during the 2019-2022 period. Senior leadership teams reflected positively on the experience and collaborations established with various academic institutions. Evidence produced through these partnerships were able to drive forward internal science-led debates and ensure decision-making not only utilised a breadth of evidence sources, but was informed by the latest scientific development and thinking. As outlined by Graham Russell, CEO of OPSS, during the oral evidence at the Public Accounts Committee in 2021 “We work with 12 academic institutions in a research hub, so we are not trying to internalise all that; we are trying to identify the best of best practice in British universities. We have just had two academic secondees into the organisation to try to bring that knowledge within the organisation” (Public Accounts Committee, 2021). Secondments, or fellowships, offer an alternative option compared to deploying a Grey Parrot, however they are not discussed further in this paper.

4. Discussion and a 'recipe' for success

Overall, the first iteration of the Grey Parrot model was deemed a relative success in delivering its mission. Learnings from post-flight data are illustrated in the previous chapters and Appendices. In this paper, we outline lessons learned from several (metaphorically) bruised wings, changes in direction mid-flight and longer than expected journeys. If the research did not deliver a publishable end-product in these pilots, its low cost limits the exposure and risk to the funder.

Whilst this model was deployed in the public sector to solve a policy-relevant question, there is no reason why it couldn't be deployed in the private sector with similar success. The fundamental principle of the model is to empower subject matter experts and utilise their knowledge in solving real world issues, or driving forward innovative thinking.

If you were to deploy the model, the optimal period for releasing Grey Parrots on their evidence journey is best timed with the academic curriculum, but not all projects have to be delivered with MSc students. You could equally bring together groups of early career researchers (junior lecturers, post-doctoral students and PhD students) whereas a single person is designated as the project manager. Whilst UK Research and Innovation offers policy internships[5] for PhD researchers, this model is a superior opportunity for funders to gain access to subject matter experts and for developing future research leaders.

The model is entirely flexible and adjustable depending on your specific evidence needs. To help readers understand whether the model is the right solution for them, Figure 3 outlines a recipe for success. The ingredients show what is needed to ensure a smooth Grey Parrot knowledge journey.

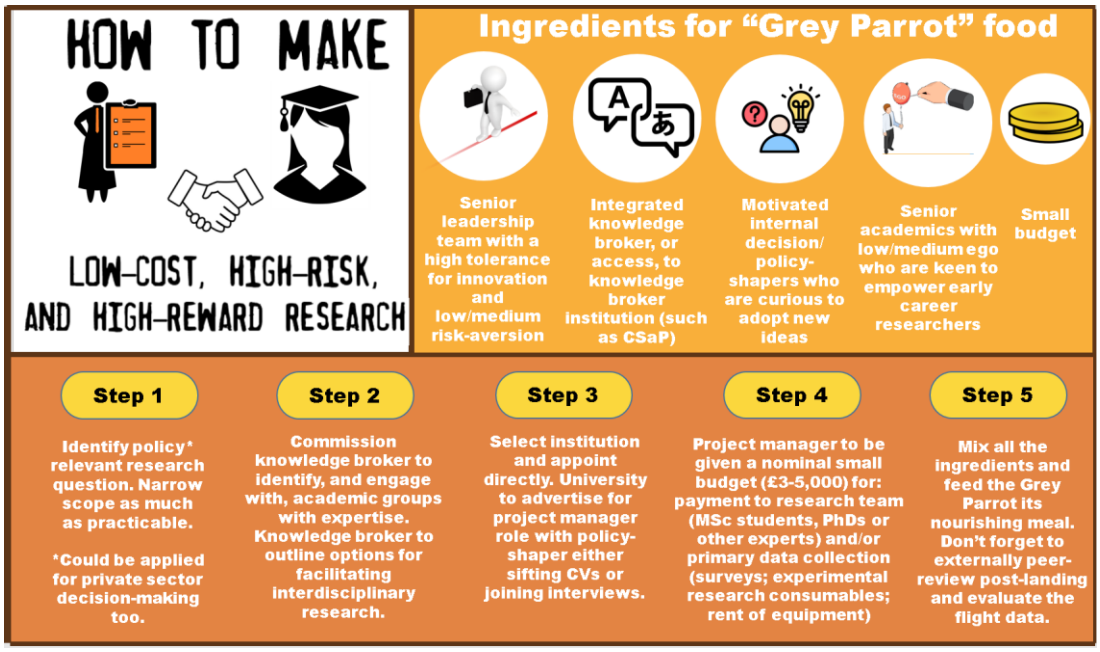

Figure 3. Recipe for Grey Parrot food ensuring its scholarly flight can successfully transfer knowledge between the scientists and policy, or decision, shapers

[5] https://www.ukri.org/what-we-do/developing-people-and-skills/find-studentships-and-doctoral-training/get-training-and-development-to-support-your-doctorate/ukri-policy-internships/

5. Conclusion

Establishing meaningful and impactful policy science evidence delivery partnership is not a trivial task. Despite the abundance of evidence published on the topic, there are hundreds, if not thousands of policy shapers who are constantly seeking cost-effective ways of obtaining scientific evidence. They remain unsure how to engage, procure or utilise it. This paper offers a simple, pragmatic, low-cost model that aims to solve some of those issues. It does not cast a light on how scientific evidence is used by policy-shapers, but instead offers a straightforward route for filling evidence gaps.

The “Grey Parrot” model has successfully been deployed for delivering several projects for the UK Civil Service. This paper outlines not only the learnings from these first flights, but offers reflections on how the model could evolve over time. In its underlying nature, the model aims to empower underrepresented academic communities who do not regularly engage with policy makers. Wicked problems, like Net Zero, will require revolutionary rather than evolutionary ideas and evidence. Bringing experts from scientific communities that have traditionally not engaged with policy can bring fruitful benefits to the policy-shaping process, promotes equality of opportunity and most importantly - brings forward diversity of thought. In its core, the model shapes and upskills the researchers of the future with management skills, whilst giving them practical experience of how to design, deliver and communicate research for policy.

We would welcome the model being applied in the future across funders, organisations and disciplines. We hope that it can provide impactful research via minimum viable bureaucracy and ultimately deliver impact for the public good.

References

Adie, E. (2020) *Mapping the people and citations in UK policy*. doi: https://doi.org/10.6084/m9.figshare.12697850.v1.

Bornbaum, C. C. *et al.* (2015) 'Exploring the function and effectiveness of knowledge brokers as facilitators of knowledge translation in health-related settings: a systematic review and thematic analysis', *Implementation Science*, 10(1), p. 162. doi: 10.1186/s13012-015-0351-9.

Bourgoin, A. and Harvey, Jean-François (2018) *How Consultants Project Expertise and Learn at the Same Time*. Available at: https://hbr.org/2018/07/how-consultants-project-expertise-and-learn-at-the-same-time.

Bourgoin, A. and Harvey, Jean-François (2018) 'Professional image under threat: Dealing with learning–credibility tension', *Human Relations*. SAGE Publications Ltd, 71(12), pp. 1611–1639. doi: 10.1177/0018726718756168.

Brownell, S. E., Price, J. V. and Steinman, L. (2013) 'Science Communication to the General Public: Why We Need to Teach Undergraduate and Graduate Students this Skill as Part of Their Formal Scientific Training', *Journal of Undergraduate Neuroscience Education*, 12. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3852879/.

Cairney, P. (2018) *Why don't policymakers listen to your evidence?* Available at: https://paulcairney.wordpress.com/2018/03/26/why-dont-policymakers-listen-to-your-evidence/.

Choi, B. C. K. *et al.* (2005) 'Can scientists and policy makers work together?', *Journal of Epidemiology and Community Health*, 59(8), pp. 632 LP – 637. doi: 10.1136/jech.2004.031765.

D'Este, P. and Perkmann, M. (2011) 'Why do academics engage with industry? The entrepreneurial university and individual motivations', *The Journal of Technology Transfer*, 36(3), pp. 316–339. doi: 10.1007/s10961-010-9153-z.

Davidson, B. (2017) 'Storytelling and evidence-based policy: lessons from the grey literature', *Palgrave Communications*, 3(1), p. 17093. doi: 10.1057/palcomms.2017.93.

Department for Business Energy & Industrial Strategy (2020) *Public attitudes to science. Research Paper Number 2020/012*. Available at: https://assets.publishing.service.gov.uk/media/5f22cf7bd3bf7f1b1593c15c/public-attitudes-to-science-2019.pdf.

Evans, M. C. and Cvitanovic, C. (2018) 'An introduction to achieving policy impact for early career researchers', *Palgrave Communications*. doi: 10.1057/s41599-018-0144-2.

Friedman, S. (2021) *Navigating the labyrinth. Socio-economic background and career progression within the Civil Service*. Available at: https://assets.publishing.service.gov.uk/media/60a4eb62d3bf7f288c716097/SMC-NavigatingtheLabyrinth.pdf.

Friesike, S., Dobusch, L. and Heimstädt, M. (2022) 'Striving for Societal Impact as an Early-career Researcher: Reflections on Five Common Concerns', in Gümüsay, A. A. et al. (eds) *Organizing for Societal Grand Challenges*, pp. 239–255. doi: 10.1108/S0733-558X20220000079022.

Geddes, M. (2018) 'Committee Hearings of the UK Parliament: Who gives Evidence and does this Matter?', *Parliamentary Affairs*, 71(2), pp. 283–304. doi: 10.1093/pa/gsx026.

Government Office for Science (2013) *Engaging with academics: how to further strengthen open policy making*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/283129/13-581-engaging-with-academics-open-policy-making.pdf.

Government Office for Science (2019) 'Realising our ambition through science. A review of Government Science Capability'. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/844502/a_review_of_government_science_capability_2019.pdf.

Hansen, M. T. and Oetinger, B. von (2001) *Introducing T-Shaped Managers: Knowledge Management's Next Generation*. Available at: https://hbr.org/2001/03/introducing-t-shaped-managers-knowledge-managements-next-generation.

HM Government (2016) *Success Profiles Civil Service Behaviours*. Available at: https://assets.publishing.service.gov.uk/media/5b27cf2240f0b634b469fb1a/CS_Behaviours_2018.pdf.

HM Government (2020) *UK Research and Development Roadmap*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/896799/UK_Research_and_Development_Roadmap.pdf.

HM Government Finance Function (2021) 'Risk Appetite Guidance Note'. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1012891/20210805_-_Risk_Appetite_Guidance_Note_v2.0.pdf.

HM Stationery Office (1969) 'Civil Service Department: Committee on the Civil Service (Fulton Committee): Minutes, Papers and Report'. Available at: https://www.civilservant.org.uk/csr-fulton_report-findings.html.

House of Commons Health and Social Care and Science and Technology Committees (2021) 'Coronavirus: lessons learned to date'. Available at: https://committees.parliament.uk/publications/7496/documents/78687/default/.

House of Commons Science and Technology Committee (2021a) *A new UK research funding agency. Third Report of Session 2019–21*. Available at: https://committees.parliament.uk/publications/4665/documents/47032/default/.

House of Commons Science and Technology Committee (2021b) *The UK response to covid-19: use of scientific advice*. Available at: https://committees.parliament.uk/publications/4165/documents/41300/default/.

House of Lords Science and Technology Committee (2022) *"Science and technology superpower": more than a slogan?* Available at: https://publications.parliament.uk/pa/ld5803/ldselect/ldsctech/47/47.pdf.

Jarman, H. *et al.* (2022) 'Role of scientific advice in covid-19 policy', *BMJ*, 378. doi: https://doi.org/10.1136/bmj-2022-070572.

Jary, C. and Bryant-Smith, L. (2015) *Working with Ministers. A practical handbook on advising, briefing & drafting*. Sixth Edit. Available at: https://www.civilservant.org.uk/library/2015_Working_with_Ministers.pdf.

Johnstone, R. (2020) 'Civil service "infantilised" by use of consultants, Cabinet Office minister says', *Civil Service World*. Available at: https://www.civilserviceworld.com/professions/article/civil-service-infantilised-by-use-of-consultants-says-cabinet-office-minister.

Kelemen, E. *et al.* (2021) 'Networks at the science-policy-interface: Challenges, opportunities and the viability of the "network-of-networks" approach', *Environmental Science & Policy*, 123, pp. 91–98. doi: https://doi.org/10.1016/j.envsci.2021.05.008.

Mazzucato, M. (2023) *The Big Con: How the Consulting Industry Weakens our Businesses, Infantilizes our Governments and Warps our Economies*. Available at: https://marianamazzucato.com/books/the-big-con.

Moore, G. *et al.* (2018) 'Deconstructing knowledge brokering for commissioned rapid reviews: an observational study', *Health Research Policy and Systems*, 16(1), p. 120. doi: 10.1186/s12961-018-0389-7.

National Audit Office (2017) *Capability in the civil service*. Available at: https://www.nao.org.uk/wp-content/uploads/2017/03/Capability-in-the-civil-service.pdf.

O'Dwyer, M. and Parker, G. (2023) 'UK government scraps in-house consultancy as departments prefer Big Four', *Financial Times*. Available at: https://www.ft.com/content/a5fa45c5-448c-42ee-8d37-ffe90c42092f.

Office for Product Safety and Standards (2021) 'UK product safety review: call for evidence'. Available at: https://www.gov.uk/government/calls-for-evidence/uk-product-safety-review-call-for-evidence.

Public Accounts Committee (2021) *Oral evidence: Protecting consumers from unsafe products, HC 180*. Available at: https://committees.parliament.uk/oralevidence/2462/default/.

Public Administration Committee (2009) *Bad Language: The Use and Abuse of Official Language.* Available at: https://publications.parliament.uk/pa/cm200910/cmselect/cmpubadm/17/1702.htm.

Stanley, M. (2013) 'Civil Service Reform - History'. Available at: https://www.civilservant.org.uk/csr_detail-homepage.html.

Stevens, A. (2021) 'The Politics of Being an "Expert": A Critical Realist Auto-Ethnography of Drug Policy Advisory Panels in the UK', *Journal of Qualitative Criminal Justice & Criminology*, 10(2). doi: https://doi.org/10.21428/88de04a1.a536a85b.

Talbot, C. and Talbot, C. (2014) *Sir Humphrey and the professors: What does Whitehall want from academics?* Available at: https://hummedia.manchester.ac.uk/faculty/policy/1008_Policy@Manchester_Senior_Civil_Servants_Survey_v4(1).pdf.

Vagnoni, C. (2021) 'Research evidence and policy-making: increasing demand, publication speed and public scrutiny'. Available at: https://post.parliament.uk/research-evidence-and-policy-making-increasing-demand-publication-speed-and-public-scrutiny/.

Viner, N., Powell, P. and Green, R. (2004) 'Institutionalized biases in the award of research grants: a preliminary analysis revisiting the principle of accumulative advantage', *Research Policy*, 33(3), pp. 443–454. doi: https://doi.org/10.1016/j.respol.2003.09.005.

Ylönen, M. and Kuusela, H. (2019) 'Consultocracy and its discontents: A critical typology and a call for a research agenda', *Governance*. John Wiley & Sons, Ltd, 32(2), pp. 241–258. doi: https://doi.org/10.1111/gove.12369.

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Appendix A. Common barriers to science-policy collaborations

Studies have shown that African grey parrots show an incredible willingness to help their peers achieve their goals by "lending a wing"[6]. This, combined the intelligence of grey parrots, served as the inspiration for naming the model described in this paper[7]. The reason is that when this model was created, there was no guarantee that the Grey Parrot pilots would be successful. Indeed, there was a slim chance that they would fail and potentially alienate policy-shapers from engaging with scientific evidence if the experience was not fruitful. However that is the nature of scientific endeavours: a self-correcting process of discovery defined by failures. A process that endlessly prioritises seeking new questions rather than answers and continues building our collective understanding of the world. The nature of scientific discovery has perhaps resulted in some common barriers between science-policy collaborations: time, access to expertise, knowledge and funding.

A.1. Time

There is generally a disparity in timelines between academics and policy-shapers. Policy-shapers have to deliver evidence and find answers to questions quickly (<1 year) and sometimes in a matter of hours, days or weeks. Whereas academics tend to analyse a set of specific research questions for 1-8 years, or longer, depending on their research grants. In addition, the typical time from "grant writing" to "starting the grant/research" itself is often more than a year (House of Commons Science and Technology Committee, 2021a). The pilot focused on a model that works for policy-shapers and the projects were designed with a target length of 3-12 months. The first aim was to time the research project delivery with the academic curriculum (term times) so that junior researchers could be involved of the project as part of their Masters studies.

A.2. Access to expertise

Policymakers can broadly be characterised as delivery (EO-SEO/G7) and management (G7-SCS) groups in the UK civil service (HM Government, 2016). The delivery teams predominantly generate, test and develop evidence in support on policy-making. Management teams predominantly lead staff, shape objectives and are usually held

[6] https://www.cell.com/current-biology/fulltext/S0960-9822(19)31469-1?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS0960982219314691%3Fshowall%3Dtrue

[7] https://www.nature.com/articles/s41598-020-64666-1

accountable for whether the evidence meets the policy needs. Often management teams communicate the evidence across the hierarchical structure rather than delivery teams.

Senior policy shapers in government, or senior decision makers in the private sector, may engage with senior academics directly to develop a strategic partnerships – for example through Policy Fellowship structures[8,9,1011]. Senior management personal connections, and networks, therefore play an important role in policy-science collaborations (Kelemen *et al.*, 2021). Some evidence suggests that a proportion of academics are more interested in furthering their research rather than commercialising their knowledge or achieving a specific policy impact (D'Este and Perkmann, 2011). League standings, senior leadership connections and historical collaborations partially explains why small groups of Universities and researchers provide large proportions of scientific evidence used for policymaking (Geddes, 2018). Surveys of senior civil servants (SCS) from 2014 suggests that SCS prescribe higher value on social sciences: this phenomenon resulted in major disconnection between what SCS perceive as important in scientific disciplines versus what academics themselves define as important (Talbot and Talbot, 2014).

The second aim was to develop a model that is not limited by the connections between senior Civil Servants and senior academics. On the contrary – one of the primary, and explicit, aims of the model was to empower early career researchers who have not had direct experience working for, or with, policy makers.

A.3. Knowledge and expertise

The debate of who is an appropriate "expert" for advising policymakers has been particularly acute during the COVID-19 pandemic (House of Commons Health and Social Care and Science and Technology Committees, 2021). Outside of emergencies however, for business-as-usual (BAU) government decisions, committees like SAGE[12] are not needed. For BAU decisions, the survey of senior civil servants revealed they think the best use of academics is of "knowledge-brokering" for policy makers (Talbot and Talbot, 2014). An auto-ethnographic examination of what it means being an "expert" reveals some of the challenging working dynamics when selecting experts in forming expert committees for advising government (Stevens, 2021).

For this reason, the third aim of the model was to empower experts who are motivated by the prospect of creating knowledge that is useful for societal impact – early career researchers (Friesike, Dobusch and Heimstädt, 2022). The model focused on creating a bridge between the delivery functions of both the Civil Service and academia. In practice, this meant linking junior policy-shapers (HEO-G7) with their effective counterparts in academia (early career researchers).

[8] https://www.csap.cam.ac.uk/policy-fellowships/policy-fellows/
[9] https://www.ucl.ac.uk/public-policy/support/development-opportunities/fellowship-programme
[10] https://raeng.org.uk/policyfellowships
[11] https://www.cape.ac.uk/what-we-do/cape-policy-fellowships/
[12] Scientific Advisory Group for Emergencies

A.4. Funding

The government research and development roadmap outlined that cutting unnecessary bureaucracy was a key element for unleashing innovation (HM Government, 2020). The third aim of this model was to pragmatically reduce bureaucracy as much as possible. The premise was to create a low-cost, high-risk and high-reward model. The high-risk refers to the ability of the project to meet an initially set ambitious goal and ultimately have a real-world *impact*, rather than the operational risk of non-delivery or the project failing to meet its intended *outcome*. The preferred route for procurement was therefore a direct award to a small team of experts. The pilots were specifically designed to operate on a budget of up to £10,000 to test the feasibility of the model and to increase scientific equality of opportunities. Several reasons existed for this.

First, research of grant-funding suggests that wider factors other than the quality of the research proposal influences outcomes of funding even in competitive bidding processes (Viner, Powell and Green, 2004). Just because one can write a convincing *narrative* for a research project does not necessarily mean they can deliver it effectively. Consultants are particularly good story-tellers, which may contribute to their ability to win tenders for evidence delivery for policy (Bourgoin and Jean-François Harvey, 2018).

Second, the vast majority (66%) of Universities in the UK were not registered on the government main framework for commissioning research[13] in 2021 as per Figure 4.

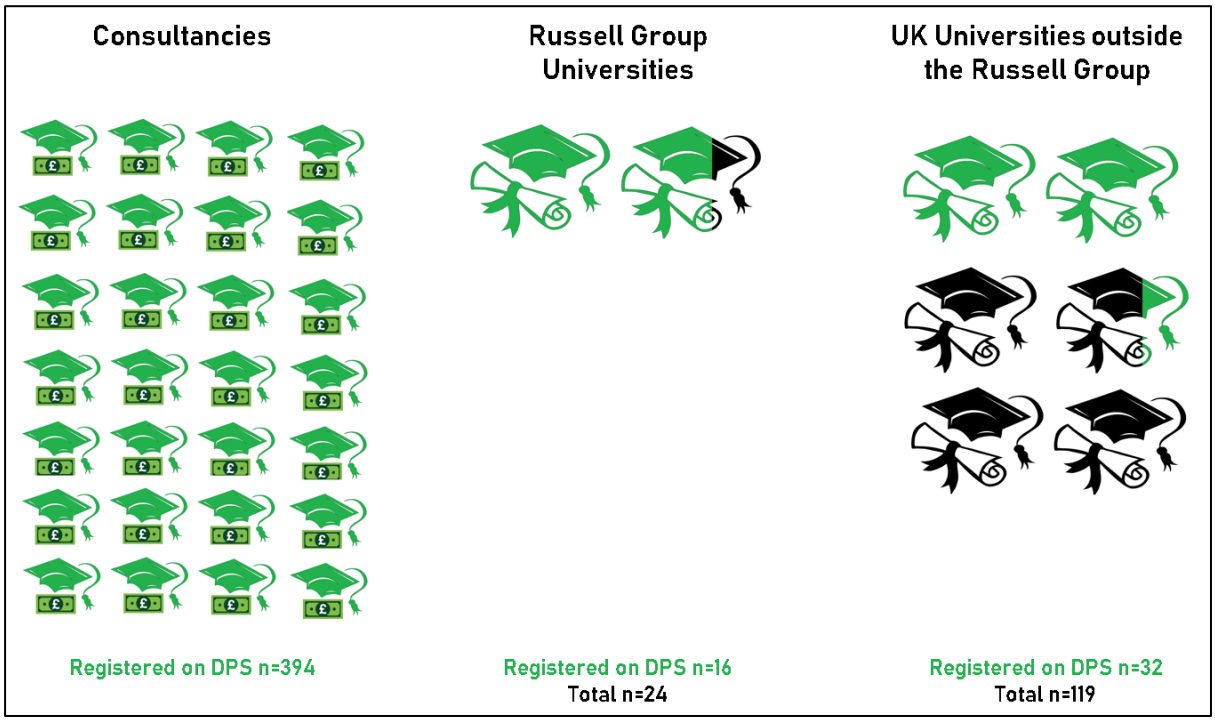

Figure 4. Registered suppliers on the UK Research Marketplace dynamic purchasing system (DPS) by type of organisation.

[13] https://www.crowncommercial.gov.uk/agreements/RM6018

Figure 4 shows that only 11% of suppliers were Universities. The overwhelming majority (89%) of registered participants competing for UK government research contracts informing policymaking were private consultancies. In 2019/20, central government spend on external consultants was more than £700m, which led to the government Consulting Hub[14] and Consulting Playbook[15] being developed with the aim of reducing this spend. This paper does not examine the efficiency or opine on how successful the Hub and Playbook were. What is also notable is that the majority of Russell Group Universities were registered (66%) in stark contrast with Non-Russell Group Universities where only a minority were registered (27%). This means that even if expertise exists within the Universities to provide research and analytical services for informing policy, a vast majority of researchers were not able to see funding opportunities due to not being part of the framework. The majority of early career researchers don't have the network, relationships or connections to reach policy shapers that could utilise the evidence they develop (Evans and Cvitanovic, 2018).

One of the main aspirations for the conception of the model was to increase *equality of opportunity* for scientists to be able to inform policy-making. After a long debate how to target bursaries that fulfil the four cornerstones, it was decided that the most efficient way to promote diversity and inclusion was clear. It was to provide academic groups that have been under-represented in providing scientific evidence for policy-makers opportunities to apply their expertise in a policy-relevant question. Two analytical articles by Geddes and Adie served as particular inspiration (Geddes, 2018; Adie, 2020).

Appendix B. Procedural setup of Grey Parrot model

Several options exist for setting up the Grey Parrot model

- **Option 1:** One team of 2 to 3 MSc students + 1 project manager who is a PhD/early researcher (post-doc or lecturer) – Duration: 3 months to 12 months
- **Option 2:** Two teams of 2 to 3 MSc students + 1 project manager who is a PhD/early researcher (post-doc or lecturer) – Duration: 3 months to 12 months, each team would peer review the other teams' work
- **Option 3:** One early careers researcher to manage an independent research project – duration 12 months
- **Option 4:** Two early careers researcher to manage an independent research project – duration 12 months

Option 2 in theory supports projects that are close in theme, which would then encourage collaboration between the teams on the subject matter. Option 3 and 4 favours more in-depth research projects by subject matter experts. Option 4 favours a project with a maximum of 2 research questions where two scientific domains are interlinked.

The second project, described in Chapter 2.2, had a planned timeline of 6 months for delivery of the research as per Figure 5.

[14] https://www.gov.uk/government/news/new-hub-will-cut-back-government-spending-on-external-staff

[15] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1103954/The_Consultancy_Playbook_Version_1.1_September_2022.pdf

Project Timelines:

Activity	Jan 22	Feb 22	Mar 22	Apr 22	May 22	Jun 22	Jul 22
Kick Off Meeting	27th Jan						
Interim Report			21st Mar				
Draft Report					31st May		
Peer Review – Project Teams						1st to 15th	
OPSS Review						1st to 15th	
Final Report & Presentation							4th July

Project Meetings: Bi-monthly progress calls will be set up (Feb to May)

Figure 5. Timeline and deliverables for each research project

For the purposes of this project, the Civil Service knowledge brokers identified the research questions, found a University with expertise in the subject matter area and brokered an agreement with internal policy leads and the University through a series of engagements. They were also the link between policy teams and University in procuring (administrative process) and overseeing (research process) the delivery of the project.

The University Course Director was tasked with recruiting the project leads directly thus seeking the most suitable early career researcher based on the questions posed by the knowledge brokers. They considered both individual circumstances (motivation, stage of PhD/post-doc and external deliverables) and professional circumstances (deep subject matter expertise, project management experience). In parallel, the Course Director also recruited MSc students that would support the early career researchers leading the respective projects. All students were remunerated for their time in line with their host University grade structures. The Grey Parrot project managers were asked to seek external experts for peer-review and to provide a list to the commissioning body (OPSS in this case). This helped the early career researchers expand their own network, seek out expertise from established experts in the field they were investigating and provide a list of independent experts. The commissioning body then procured the services of the expert for peer-reviewing each individual report: a standard rate of £350 per report up to 50 pages was considered adequate remuneration for peer-review in 2021-2023.

For one of the projects, the project manager dropped out shortly before the kick-off meeting due to personal circumstances and a replacement had to be found. This therefore had unintended consequences on the experience of participants. One of the Civil Service knowledge brokers had to act as de-facto project manager, whilst the replacement was appointed and integrated into the team. The initial evidence pack was prepared by the knowledge brokers and was used to justify the projects within the organisation and secure funding. A comparison between Grey Parrot and consultancy teams performance is presented in Table 1.

Table 1. Grey parrot versus consultancy team

Criterion ↓	Grey Parrot Team	Consultancy Team
Methodological approach and breadth	The team reviewed academic, industry, policy and grey literature. They primarily relied on academic experts and subject matter experts from OPSS. They reviewed data from multiple scientific domains and added novel insight into risk assessment procedures, as well as additional insight on methodological differences in data collection between countries and institutions. This team reviewed a wider evidence basis covering more sectors.	The team reviewed predominantly industry, policy and grey literature. They engaged with industry stakeholders to provide additional evidence therefore leveraging existing industry knowledge. They reviewed data from multiple industries and added case studies into how the sector operated as well as lessons learned from industries with similar operations. This team reviewed a narrower evidence basis covering fewer sectors.
Time management	Requires improvement	Excellent
Outcome and quality of work	The final report was of a high standard and was commended by the external peer reviewers (Senior Lecturers experts in the domain of the research, however in different institutions compared to Grey Parrot leads).	The final report was of a high standard following external peer review.
Interpretation of brief	They ruthlessly ensured that they provide an unbiased evidential review. Their work served as impartial evidence for policy-shapers.	They proactively shaped policy decisions as part of the recommendations. This could have been influenced by prior experiences due to working with policy shapers previously.
Policy shapers reflections	The report was of a “very high standard”, answered the brief and provided meaningful recommendations for policy considerations. The data sources reviewed as part of this project were more extensive compared to the consultancy team.	Evidence was informative and insightful. It merged into the realm of policy-shaping rather than an impartial representation of existing facts, which some policy-shapers judge as positive whereas others judge as negative.