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Brokering knowledge, brokering relationships: Improving research-practice collaboration in support of public sector reform

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Brokering knowledge, brokering relationships: Improving research-practice collaboration in support of public sector reform

A Research Report for ANZSOG and the Crawford School of Public Policy, the Australian National University

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Executive Summary

Introduction

This report shows how knowledge brokering can facilitate better research-practice collaboration, especially in regard to supporting public sector reform. We analyse the function and practicalities of knowledge brokering, the conditions and practices that can support effective collaboration, and how to measure the relative benefits and impacts of different approaches.

The Australian Public Service (APS) and New Zealand Public Service (NZPS) are undergoing programs of reform to deliver a capable, responsive, and future-focused public service. A feature of this reform agenda is ensuring that evidence and program evaluations are available for the provision of high-quality advice and better outcomes. Public servants also require the capacity and capability to use evidence and work in genuine partnership with other sectors.

As producers of independent public sector-relevant research, university-based researchers have a role to play in engaging with government end-users of research. However, it is well established that discrete institutional structures and norms maintain a gap between the two. This gap can impede practitioners' use of research evidence and the public value that flows from it. It is within this gap that knowledge brokering operates.

> **Knowledge brokering** is a tool, technique or process for connecting research and practice to facilitate and drive the translation, transfer, and mobilisation of research into practice. Knowledge brokering processes and activities are wide-ranging, and include, but are not limited to, finding, assessing and translating research into more accessible, implementation-focused outputs, providing training that targets improved cross-sectorial acumen, and convening and facilitating interaction between researchers and practitioners. Knowledge brokers are the organisations, groups and individual interlocutors who work across institutional boundaries to perform knowledge brokering work. 'Knowledge brokering professionals' can be found in a range of settings, including in universities, government, or in independent, intermediary organisations.

Key Findings

This report includes a review of the international knowledge brokering literature and analysis of key themes emerging from 24 interviews with professionals engaged in knowledge brokering activities. Interviews were conducted with participants from government, university and separate intermediary entities, representing the breadth and variety of funding models, mandates and activities involved in knowledge brokering. The interviews explored the functions and practices of knowledge brokering in public sector contexts, managing research-practice relationships, the relative impact and effectiveness of knowledge brokering approaches, and participants' views about the challenges and opportunities in the current reform initiatives in Australia and Aotearoa New Zealand.

The defining feature of knowledge brokering is **relationality**. Knowledge brokering relies on and adds value through research partnerships, connection and collaboration to drive cross-boundary thinking and mutual knowledge exchange. Knowledge brokers are skilled in negotiation, network development and facilitation, and communication and information sharing. These skills help them introduce diverse perspectives and new ways of approaching research collaboration and evidence production and use.

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Our research identified four key themes on the function and practices of knowledge brokering and establishing better research-practice collaborations.

1. The relational nature of knowledge brokering

Participants relied on **established networks** to learn how, where and who to engage with to move between and garner influence in the worlds of research and practice. Existing networks and informal outreach activities – and the strategic insights gained – regularly helped participants secure contracts and facilitate knowledge brokering opportunities. Existing connections positioned them as the known actor, easier to engage with directly rather than relying on formal tender processes.

> **Reputation and trust** were particularly important for maintaining and leveraging relationships and networks – as one interviewee reflected, "no one trusts the evidence, people trust the person".

The relational nature of knowledge brokering is not without its challenges. Participants acknowledge that fee-for-service arrangements complicate independence. Fee-for-service contributes to the risk of overpromising or disregarding the original intentions of research to tell the government *client* what it wants to hear. Current procurement models also work to reinforce expectations within government that academics provide free advice. This is a reminder of the inherent contradictions in the current higher-education system, where academics' salaries are paid from public funds at the same time as the impact and engagement agenda reinforces transactional, monetised collaboration.

2. Producing brokered knowledge

> **Brokered knowledge** is that which identifies the practice problem and relevant research evidence and transforms both into something that is mutually understood and workable.

Participants discussed the importance of **problem definition**, where knowledge brokers work with practitioners to identify the purpose and scope of their problem and evidence needs, then design a project or intervention in line with this. Knowledge brokers help practitioners navigate bounded rationality by bringing together diverse perspectives to better understand the nature of a problem and evidence needs. A common theme was the vulnerability required of practitioners in the problem definition phase, where they may have to disclose sensitive information or admit what is not known.

Problem definition also involves **transforming practice problems into something that is researchable**. Participants described knowledge brokers as helping researchers understand that evidence-based approaches are an ideal, and what counts as useful evidence is not fixed, but changes depending on power relations, institutional considerations, the questions being asked, and the people involved. Knowledge brokering co-creates new ways of understanding the production, meaning and use of evidence.

The production of relevant evidence is important, but equally so is **practical instructional insights and recommendations**. Successfully persuading practitioners often relies on the problem definition phase. Problem definition helped participants understand the forces shaping how evidence would be received and frame evidence accordingly.

3. Creating the conditions for collaboration

A key aspect of knowledge brokering is creating the conditions for collaboration. We identified three common pre-requisites for creating these conditions:

- **A foundation of mutual trust**

There are significant cognitive adjustments needed to help researchers and practitioners view one another as trusted collaborators. This process should occur early on and bring groups together,

ideally face-to-face, to exchange ideas and begin identifying commonalities. The knowledge broker facilitating these interactions is an intervening force, able to disrupt entrenched biases and encourage new ways of relating to one another, and the production and use of evidence.

- **Getting planning and proactive management right**

Planning helps set expectations, avoid misunderstanding, and steward the delivery of a project. Planning and proactive management is not only useful in terms of project management, it can also promote greater alignment between researchers and practitioners. Opportunities for regular contact and collaboration through avenues such as regular progress meetings that share early findings and research briefings helps establish a shared purpose and support process transparency.

- **Enabling the evidence ecosystem**

The work of knowledge brokering revolves around developing and operationalising the evidence ecosystem, including: the authorising environment for collaboration and evidence-based innovation, research and evaluation literacy, data collection and data-sharing infrastructure, and continuity of funding. Sustained systemic change needs to be accompanied by an attitudinal shift on the role of evidence and collaboration in government decision-making. This shift can be driven at a bureaucratic level, such as KPIs for cross-sector engagement, more generous intellectual property and publication rights, and payment for open access.

4. Impact and evaluation

There is limited existing systematic evaluation of the impact and effectiveness of knowledge brokering. However, many participants agreed that planning for impact and evaluation helped them develop a **theory of change**. While there were some differences in approach across the three cohorts, they agreed that including impact and evaluation planning as a phase in all projects was good practice. The impact and evaluation planning phase can be guided by frameworks and tools that are tailored to the discrete needs of the audience, policy domain and collaboration objectives.

Many of the interviewees described impact in relation to influence and changes in public debate, policy and behaviours and relied on proxy indicators of impact:

- Quantitative measures included: media engagement, citations in policy documents and in Parliamentary material, the number of outputs, and returning clients.
- Qualitative data included: research commissioner feedback via surveys and post-project debriefings.

There are limitations in accessing and evaluating impact indicators, including a lack of public reporting on commissioned work that drives internal process improvements and that quantitative indicators cannot account for how budgetary constraints, election cycles, and pre-existing relationships shaping how evidence is received and used. Some participants reported formally planning for evaluation, both in terms of the impact of the project and the knowledge brokering processes involved. This included using commissioning forms, pre-project consultations, implementation pathways, and translation and dissemination strategies to plan for and monitor impact.

Implications for future knowledge brokering practice

Knowledge brokering is more than a simple matching exercise; it relies on technical solutions *and* complex *s*ocial and political forces. This is true in terms of how knowledge is produced, accessed and used, and creating the conditions for collaboration that support these processes.

Relationality is central to establishing mutually beneficial research-practice collaborations. Public sector and/or policy domain knowledge complements trust to cement the reputation and authority of the knowledge broker to introduce new perspectives and promote new approaches to evidence production and use.

> This report challenges the prevailing characterisation of knowledge brokers as neutral intermediaries. More than strict bipartisanship or the quality of research evidence – while certainly still important – it is content knowledge, contextual insight and connections that served as the basis for the trust necessary for effective knowledge brokering.

Knowledge brokering has a distinct function, with particular skills, processes and considerations; challenging the idea that researchers simply need to make more and better connections with government to improve evidence uptake.

There are three main recommendations for how knowledge brokering practices can be improved to help establish better research-practice collaborations in support of public sector reform.

1. Opportunities for research-practice collaboration

Knowledge brokering can support the conditions for research-practice collaboration by leveraging the curated *space* that brokering interventions can create and bringing parties together around a clear, unifying purpose.

Knowledge brokers might oversee and help broker mechanisms such as:

- Mutual secondments and fellowship programs
- Cross-sector conferences
- Cross-sector workshops and other fora
- Expert advisory groups, directories and clearinghouses to quickly identify and directly access research expertise
- The creation of dedicated knowledge brokering unit/s within the public sector
- Training, including joint training with researchers and practitioners

2. Encouraging and incentivising research-practice collaboration

Developing the public sectors' capabilities and capacity for research-practice collaboration is key and much of this must be driven by government, as the operating environment that will ultimately procure and implement evidence. This is best done with the support of the research community and knowledge brokering.

Technical mechanisms in support of systemic change include:

- Investment in robust infrastructure for data collection, sharing and use
- Public sector learning and development focused on core research and evaluation capabilities
- Government-developed training and templates to help researchers prepare and deliver evidence for public sector decision-making
- Government research roadmaps and priority areas of interest
- Mutually beneficial procurement processes
- Creation of knowledge brokering roles

Attitudinal shifts are also required. Central to this is normalising and incentivising research-practice collaboration and the effort involved in brokering relationships and knowledge exchange. Bureaucratic-level incentives and supports include:

- Promotion and other reward structures to incentivise cross-sector engagement and developing research and evaluation capabilities
- Inclusion of open access fees and greater flexibility around intellectual property and publication
- Peer review processes in research work undertaken with government

3. Planning and processes

Formal planning and processes are key to successfully managing research-practice collaborations. These processes work to establish expectations around purpose, timelines and deliverables, helping all parties to be clear on direction and building confidence that objectives will be met. The formality also promotes the legitimacy of research-practice collaborations and evidence use in day-to-day practice. Planning and processes are effective when approached **collaboratively**, providing opportunities to establish a shared vision and modes of working. Sustained two-way dialogue is particularly important in this regard, providing opportunities to discuss progress, share early findings, consider implications for implementation, and evaluation of knowledge brokering.

Planning also extends to impact and evaluation. A formal, tailored and transparent approach to impact and evaluation can help knowledge brokers demonstrate the relative benefit of their contributions and promote an internal culture of continuous improvement.There is a distinct role for knowledge brokers as proactive project managers who guide the implementation of research projects, primarily via arranging and chairing a steering committee or advisory body to lead the work of planning for, monitoring, and delivering a project.

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1. Introduction

The Australian Public Service (APS) and New Zealand Public Service (NZPS) are currently undergoing ambitious programs of reform that aim to deliver a capable, responsive and future-focused public service. A feature of this reform agenda is ensuring that evidence[1] and program evaluations are available for the provision of high-quality advice and better outcomes. Public servants also require the capacity and capability to use evidence and work in genuine partnership with other sectors.

As producers of independent, methodical public sector-relevant research, university-based researchers have a role to play in engaging with government end-users of research. Indeed, there is a persistent view that it is the responsibility of the research supply side to preempt and address practice relevant issues; funding models now reward explicit research and advisory relationships with government, and successful research impact (Gunn and Mintrom, 2018, 2021).

Despite the incentives and increased appetite on both the research and practice sides, discrete institutional structures and cultural norms maintain a gap between the two. This gap can impede practitioners' use of research evidence and the public value that flows from it.[2] It is within this gap that knowledge brokering operates.

Knowledge brokering is a tool, technique or process for connecting research and practice to facilitate and drive the translation, transfer, and mobilisation of research into practice. Knowledge brokering processes and activities are wide-ranging, and include, but are not limited to, finding, assessing and translating research into more accessible, implementation-focused outputs, providing advice and professional learning that targets improved cross-sectorial acumen, and convening and facilitating interaction between researchers and practitioners. Knowledge brokers are the organisations, groups and individual interlocutors who work across institutional boundaries to perform knowledge brokering (Ward et al., 2009; Meyer, 2010). In Australia and Aotearoa New Zealand, knowledge brokers can be found in a range of settings, including in universities, government, or in independent, intermediary organisations.

Knowledge brokering is more than a matter of research translation or simply matching the *right* evidence with the *right* end-user. Brokering involves a range of technical and cognitive practices:

> The identification and localisation of knowledge, the redistribution and dissemination of knowledge, and the rescaling and transformation of this knowledge. Brokering knowledge thus means far more than simply moving knowledge—it also means transforming knowledge (Meyer, 2010, p. 120).

There are also complex political and social forces shaping how different actors relate to one another and knowledge production and use, given that public sector knowledge brokering takes place within the inherently politicised policymaking context (Wye et al., 2023; Cvitanovic et al., 2017; Cairney, 2016). As a third, intermediary, actor, knowledge brokers have been characterised as able to

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[1] The terms evidence and research evidence are used interchangeably throughout this report, referring to the public sector-relevant research that is produced by academic researchers. The term knowledge is used to refer to the expertise and insights that both researchers and practitioners bring to a collaboration and that can help transform research evidence into something more practice-relevant and implementation-minded.

[2] Research is used to refer to university-produced research and expertise, and practitioner is a catchall term for all government actors, acknowledging that this is not a homogenous group. Occasionally, the term research end-user has also been used to refer to government practitioners.

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encourage the cross-boundary thinking and genuine partnership needed to bridge the research-practice gap.

The role of knowledge brokering in supporting evidence-based policy and practice[3] is not new. The Canadian Health Services Foundation (now Canadian Institutes of Health Research) is an early example of knowledge brokering, the result of government investment to develop knowledge brokering practices and toolkits in health services (Canadian Health Services Foundation, 2003). In the UK, the What Works Network (Abdo et al. 2021; What Works Network, 2018) and Cabinet Office Open Innovation Team (Ford and Mason, 2018) have set a precedent for how governments can work with researchers and experts to generate, share and use evidence. There is still, however, a relatively limited evidence base about *how* knowledge brokering operates in practice and the conditions and practices that best support effective collaboration. This is particularly true of the Australian and Aotearoa New Zealand contexts, where the role of knowledge brokering in supporting evidence-based policy and practice is still emerging. There is, then, a need to better understand the practicalities of knowledge brokering and where efforts can best support public sector reform.

This report presents the findings of a research project including a review of the international knowledge brokering literature and interviews with 24 professionals engaged in knowledge brokering activities. Interviewees were from government, university and separate intermediary entities[4], and were involved in a range of knowledge brokering approaches and activities. The interviews explored the functions and practices of knowledge brokering in public sector contexts, managing research-practice relationships, the relative impact and effectiveness of knowledge brokering approaches, and participants' views about the challenges and opportunities in the current reform initiatives in Australia and Aotearoa New Zealand.

Our analysis is less concerned with what and who knowledge brokers are, as it is with *what they do* to create the conditions for genuine partnership and evidence-based policy and practice.

This report is organised as follows:

Section 2 outlines the approach to the fieldwork.

Section 3 provides an overview of the factors driving the demand for greater research-practice collaboration and public sector-relevant research evidence in Australia and Aotearoa New Zealand

Section 4 presents the state of the evidence, a high-level synthesis of the leading themes in the extant knowledge brokering research and grey literature.

Section 5 provides an analysis of the four key themes emerging from the interviews:

- The relational nature of knowledge brokering
- Producing brokered knowledge
- Creating the conditions for collaboration
- Impact and evaluation

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[3] Evidence-based policy and practice is used to encompass broader government decision-making, including service delivery, internal process improvement, and policymaking.
[4] This report refers to participants from these entities as independent knowledge brokers, signifying that they are independent of government and research communities. We acknowledge that this term does not necessarily capture full financial independence or a lack of vested interests, for instance, in the case of member-based organisations.

Section 6 examines the implications for knowledge brokering practice and provides advice for how knowledge brokering practices can be improved to help establish better research-practice collaborations in support of public sector reform.

1. Research approach

This project set out to answer the question *How can knowledge brokers establish better research-practice collaborations in support of public sector reform?* In doing so, it explores the function and practicalities of knowledge brokering, the conditions for success, and how to measure the relative benefits and impacts of different approaches to inform where efforts can add the greatest value.

We were guided by the following sub-questions:

- What is the most useful evidence for public sector decision-making?
- What are the good practice approaches to knowledge brokering?
- What are the impediments to effective knowledge brokering?
- What is involved in establishing the legitimacy and trust necessary to bridge the research-practice gap?
- What are the meaningful ways to measure and evaluate the impact of knowledge brokering?
- What opportunities and challenges does the current program of public sector reform present for knowledge brokering?

The project involved a scoping review of the existing scholarly and grey literature on evidence-based policy and practice and knowledge brokering. The concepts and trends observed in the literature were further informed and verified through analysis of interviews with knowledge professionals engaged in knowledge brokering activities.

A purposive sampling strategy was used to identify entities involved in knowledge brokering activities, including the commissioning, production, translation, transfer, and mobilisation of public-sector relevant research. This strategy was complemented by a limited snowballing strategy, with the research team asking some interviewees to identify other potential participants. Entities were assessed and included in our sample on the basis of criteria similar to those used by Bell and Head (2017):

- *Stakeholders/target audience:* the entity connects university-based research and/or research producers with government practitioners.
- *Mission statement:* the mission statement, goals and/or strategic plan of the entity explicitly relates to increasing connections between research and practice to improve the uptake of research evidence.
- *Knowledge brokering activities:* entities undertake activities that fall into at least one of the three knowledge brokering models (knowledge management, capacity building, and linkage and exchange).

Management consultancy firms can fulfil a knowledge brokering function; however, such entities were excluded from our target sample for several reasons. The purpose of this research was to determine how knowledge brokering can facilitate better *research-practice* collaborations. Management consultancy firms are in direct competition with academic researchers vying for government tenders for external advice and evaluation services. Unlike researchers, they are not necessarily guided by the same stringent standards for independence, quality and rigour in research production and capacity building. Indeed, there are pressing questions of probity surrounding the Australian government's use of management consultancy firms following a scandal that has engulfed several of the largest firms. Moreover, this research was conducted against the backdrop of an

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explicit mandate in Australia to reduce reliance on the external workforce that perpetuates capability gaps (Australian Public Service Commission, 2023a).

Our participants had knowledge brokering experience in Australian and Aotearoa New Zealand public sector contexts, and included research producers within universities, public servants (or 'end-users'), and individuals from unaffiliated intermediary entities. This research is interested in the knowledge brokering functions and processes that create the conditions for research-practice collaboration. For this reason, we have not sought to define the 'ideal' broker, instead viewing our participants on a spectrum of involvement in knowledge brokering. Various participants from the three cohorts self-identified as knowledge brokers or as performing knowledge brokering functions. For instance, university-based participants orchestrated networks and performed discrete translation and transfer activities alongside research production, while participants from government-based research institutes helped other practitioners develop research questions and commission research projects.

The interviews were semi-structured and approximately one-hour in length; the researchers introduced a set of themes and related discussion questions and asked additional exploratory questions as needed (See Appendixes, Table 1). We conducted a total of 24 interviews: 11 government-based, 6 university-based and 7 independent knowledge brokers. 10 interviews were with participants from Aotearoa New Zealand and 14 were from Australia. Our sample represents the breadth and variety of the entities, funding models, and mandates present in the knowledge brokering landscape (See Appendixes, Table 2). All interviews were recorded and transcribed. Data analysis was conducted using NVivo.

2. Background: Public sector reform in Australia and Aotearoa New Zealand

The APS and NZPS are grounded in the Westminster tradition, which sees their role as supporting the Parliament and Government of the day to deliver better outcomes for the public they serve. They do so through the provision of high-quality, independent, evidence-based advice. This function necessitates public servants who are capable and empowered to use evidence to identify emerging issues and test hypotheses to determine what works and why (Department of Prime Minister and Cabinet, 2019).

The governments of both Australia and Aotearoa New Zealand face the combined factors of budgetary constraints, an increasingly complex global context, declining levels of public trust, and the demand for more responsive services (Head, 2023). Service-wide reform is needed for the public sector to continue fulfilling its core function, while also adapting to changing demands and future challenges and opportunities. Key components of this reform are improving the public sector's use of rigorous evidence and its ability to work in genuine partnership with other sectors (Cairney, 2016; Ball, 2024). Head (2023) further proposes that collaboration is linked to inclusive and authentic evidence gathering, in turn contributing to building trust in the public sector.

The 2019 *Independent Review of the APS* examined the capability, culture, and enabling systems of the APS. The review identified a long-term decline in the APS's core in-house knowledge and capabilities for evidence-based policy and practice, finding that this presented a significant risk to the APS's ability to fulfil its responsibilities. A key theme of the recommendations was rebuilding the evidence and evaluation literacy of the APS. This included partnering with academia for greater impact via regular collaboration on research for better public policy and administration (Department of Prime Minister and Cabinet, 2019; Recommendations 26 and 27).

The APS Reform agenda operationalises the recommendations set out in the *Independent Review*.

Priority Two: An APS that puts people and business at the centre of policy and service.

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The APS works in genuine partnership with the community to solve problems and co-design the best solutions to improve the lives of the Australian community.

Priority Four: An APS that has the capability to do its job well.

The APS builds the capability of its staff to create a skilled and confident workforce, and a robust and trusted institution that delivers modern policy and service solutions for decades to come (APS Reform Office, 2023).

A suite of initiatives has been introduced that seek to embed a culture of collaboration and evidence-based policy and practice alongside the other conventions and responsibilities of the APS Craft.

Initiatives include:

- The Charter of Partnerships and Engagements provides consistent principles for improving how the APS partners with a range of stakeholders, including academia. The Charter and underpinning guidance aim to support APS staff to build the capabilities to work in genuine collaboration with the Australian community to develop more responsive policy and programs and deliver better outcomes (APS Reform Office, 2023, 2024).
- The Australian Centre for Evaluation (ACE) to embed a culture of evaluation and experimentation within the APS (Treasury, 2023a).
- Australian Government Consulting, an in-house consultancy to provide high-quality strategic advice and promote more transparent and efficient procurement processes (Australian Public Service Commission, 2023b).
- The APS Strategic Commissioning Framework, which seeks to prioritise APS capability and employment and combat excessive reliance on the external workforce, instead encouraging public servants to work with universities when relevant external expertise is required (Australian Public Service Commission, 2023a).

In 2020, Aotearoa New Zealand's *State Sector Act 1988* was repealed and replaced with the *Public Service Act 2020* (The Act). The Act includes provisions for a program of reforms to ensure a more integrated, agile and responsive NZPS (Public Service Commission, 2020a). The NZPS will do so by using data to drive action, learning and adaptation, by engaging the public in the priorities of the Government, and adopting more collaborative organisational structures and ways of working (Public Service Commission, 2020b, 2022).

Initiatives include:

- Enshrining a common purpose and foundational principles for all public servants to guide the delivery of more integrated, effective policy and services (Public Service Commission, 2020a).
- The introduction of Long-term Insight Briefings (LTIBs), which require agencies to develop and publish analysis of medium and long-term trends, risks and opportunities affecting Aotearoa New Zealand. LTIBs are informed by engagement with a range of stakeholders, including consultation with the public, academic and business sectors, marking an important step towards embedding broader forms of evidence in public sector decision-making processes (Public Service Commission, 2023).
- Establishing a Public Service Leadership Team (PSLT), comprised of Chief Executives and led by the Public Service Commissioner. The PSLT has a formal systems leadership role, giving members the power to create standards that have a mandatory effect across the NZPS. This promotes a more unified approach to problem solving that focuses on the interests of the whole system, rather than those of a single agency (Public Sector Commission, 2020a).

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- The introduction of two new types of Public Service joint ventures – interdepartmental ventures and joint operational arrangements – to support strategic alignment and joint resource management that more effectively and efficiently harnesses the broad capabilities of the NZPS (Public Service Commission, 2020a).

Correcting the atrophy of core in-house expertise and capabilities is a common theme across both reform programs (Department of Prime Minister and Cabinet, 2019; Parliamentary Joint Committee of Public Accounts and Audit, 2023; Hipkins, 2018). Staffing-level caps, typical of New Public Management, were initially introduced to remove inefficiencies and reduce expenditure. Instead, they encouraged dependence on external management consultancy firms and wasteful procurement processes, where the cost incurred is often much higher than if the government had invested in internal and long-term capabilities (Mazzucato and Collington, 2023).

There are also pressing questions of probity surrounding the government's use of management consultancy services amid an ongoing scandal that has engulfed several of the largest firms. Investigations have identified the misuse of privileged government information and, in Australia, this triggered referrals to police and ongoing parliamentary inquiries (Treasury, 2023b). In Aotearoa New Zealand, government spending on management consultants was a campaign issue in the lead-up to the 2023 general election (Luxon, 2023).

The two country's respective programs of public sector reform and a hardening position toward management consultancy firms come amid sustained external pressure on universities to build explicit research and advisory relationships with government. This pressure is reinforced by financial incentives for quantifying the impact of activities to this end, ultimately reconfiguring the work of the academy (Gunn and Mintrom, 2018, 2021).

Against this backdrop, the research expertise housed within universities can bring immense value to the public sector. This is true in terms of helping address immediate policy and practice problems and, in the longer-term, identifying emerging trends and helping embed the capabilities and systems to realise innovative solutions. Indeed, recent years have seen a proliferation of dedicated strategic relations and external communications units in universities. These engagement activities seek, in part, to fulfil a knowledge brokering function, however, they are not particularly well understood. Oliver et al. (2022), for instance, finds limited empirical evidence of a theory of change underpinning research-practiced engagement activities or evaluation of what works to improve research mobilisation. Therefore, this research aims to improve understanding of knowledge brokering and to draw and build on the existing evidence base for how best to create the conditions for research-practice collaboration.

3. State of the evidence

The research-practice gap

Despite the demand for public-sector relevant research and the growing pressure within universities for impactful, engaged research, the research-practice gap remains a persistent challenge. This gap is not insurmountable, with studies identifying considerable overlap between the two groups (Löfgren and Bickerton, 2021; Walter et al. 2019; Newman et al. 2015; Talbot and Talbot, 2014). The work of bridging this gap is generally characterised as the responsibility of the supply side: researchers simply need to better pre-empt and address the issues that are relevant to practitioners and produce punchy summaries and high-impact op-eds (Oliver and Cairney, 2019). However, this simplifies the evidence-to-action pipeline, viewing evidence as something that is relatively static, to be translated and transferred to decision-makers.

Evidence-based policy and practice is rarely a linear and technocratic exercise, rather it is symbiotic. Several studies have identified cultural and structural deficiencies within government (the demand

side) that prevent evidence-based policy and practice. These include organisational culture and familiar biases against-university-produced research (Head, 2016), as well as individual capability deficits and inadequate mechanisms to access and use evidence in day-to-day practice (Löfgren and Bickerton, 2021; Newman et al., 2015, 2017; Howlett, 2009). The severity of these deficiencies varies across different policy domains; health, science and innovation policy, for instance, tend to be more connected to academic expertise and have specific evidence requirements. Over time, structural and cultural factors likely have a reinforcing role, as inadequate internal research literacy embeds a lack of familiarity with relevant experts and research evidence and, in turn, a lack of confidence in their role in government decision-making.

There are also cognitive forces at play, as decision makers operate with bounded rationality and make cognitive shortcuts to process information quickly and make politically feasible decisions (Edwards, 2021, 2010a, 2010b; Cairney, 2016). How evidence is received and implemented is deeply contextual and changeable, Oliver and Cairney (2019) write that "evidence garners credibility, legitimacy and usefulness through its connections to individuals, networks and topical issues". Research-producers are expected to bear this in mind, as well as learning how, where and who to engage with for the best chance of influence (Geddes, 2023; MacKillop and Downe, 2023). The situation is further complicated by inconsistent and unhelpful generalisations in the empirical literature and 'how to' advice offered to researchers. Systemic reviews (Oliver and Cairney, 2019) and qualitative analysis (MacKillop and Downe, 2022; Oliver and de Vocht, 2017; Head et al., 2014) identify major points of divergence. These include what 'counts' as useful evidence for policy, how best to communicate evidence, the role of researchers in decision-making, and how 'far' researchers should go to influence decisions.

An evidence ecosystem

Evidence-based policy and practice requires an evidence ecosystem. This ecosystem refers to the interplay between the multiple features, actors and conditions necessary to generate, analyse and implement evidence within a system. These include technical components such as a cohesive data infrastructure, purposeful procurement mechanisms, and the capabilities and opportunities for practitioners to access, understand and use evidence (Ford and Mason, 2018; Abdo et al., 2021).

The technical components of an evidence ecosystem must also be supported by cultural and behavioural enablers. This requires a broader cultural shift, both within universities and the public sector, that respects genuine research-practice collaboration and empowers practitioners to test new ideas and generate a pipeline of evidence about what works and why in policy development and service delivery (ANZSOG, 2022; Ball, 2024). Insights from the What Works Network find that more flexible organisational practices and leadership attitudes around the role of evidence and collaboration are key to embedding new ways of working within government (What Works Network, 2018; Adbo et al., 2021). In particular, the What Works Network's success has been driven by the visible support of the Cabinet Office and What Works Team embedded within the agency. The Cabinet Office champions and lends credibility to the What Works agenda, while also working with the What Works Team to forward a government-wide program of activity that situates evidence and evaluation alongside the other conventions of working in government (What Works Network, 2018).

The importance of a balanced evidence ecosystem is apparent in the work of McCabe et al. (2016), who identify a "ceiling" to collaborative research partnerships. This ceiling is the result of practice partners tending to defer to researchers as the experts – and researchers readily assuming this role – rather than contributing their own practice knowledge. This can prevent genuine partnership and opportunities for practice insights to "interpret or influence academic development of theoretical findings" (McCabe et al., 2016, p. 264) and contextualise research findings to make them more usable in practice. Moreover, it does little to build the research literacy of practitioners and their capacity to engage with the research process. There is a plausible risk that research-practice

collaborations of this nature simply replicate the atrophying of core capabilities and knowledge brought on by reliance on management consultancies.

As the "human force behind knowledge transfer" (Ward et al., 2009, p. 268), knowledge brokers can themselves be seen as a feature of an evidence ecosystem. Knowledge brokering has a critical role to play in promoting the capabilities, practices and mechanisms that can support the conditions for collaboration and evidence-based policy and practice.

Knowledge brokering research and trends

Contested terminology cuts across the research literature, and there is not a consensus on what knowledge brokering is or the outcomes it produces. Lomas (2007) provides a useful foundational definition from which to begin, describing knowledge brokering as

> All the activity that links decision makers with researchers, facilitating their interaction so that they are able to better understand each other's goals and professional cultures, influence each other's work, forge new partnerships, and promote the use of research-based evidence in decision-making (p. 131)

Terms like boundary spanner/organisation (Williams, 2011; van Meerkeek and Edenbos, 2018) and evidence intermediary (Bell and Head, 2017; Isett and Hicks, 2020; Williamson and Leat, 2021; Cvitanovic et al., 2021) are used variously, and sometimes interchangeably, in relation to these activities.

Knowledge brokers are the individuals who perform the work of knowledge brokering (Ward et al., 2009; Meyer, 2010). A wide range of entities and individual actors are referred to as knowledge brokers, including philanthropic foundations (Williamson and Leat, 2021), government research units (Bell and Head, 2017), think tanks, and consultants (Smith et al., 2013; Sin, 2008; Stone, 2007). The presence of ideologically driven advocacy agendas in the case of think tanks and customer-client relationships in the case of consultants calls into doubt the extent to which they can broker impartial knowledge and relationships (Wellstead and Howlett, 2022; Ward et al., 2009). Universities too are becoming a space dedicated to knowledge brokering, with the creation of professional knowledge brokering roles and applied research institutes wherein there is a growing expectation that academic researchers take on all or part of the knowledge brokering function (Auld et al., 2023; Knight and Lightowler, 2013).

In knowledge brokering, the nature and extent of interaction and collaboration depends on several factors, including the nature of the research output, needs or engagement, the public sector or policy context, and the stage in the development of policy. Here, it is useful to distinguish between translation, transfer and exchange.

Translation is "the activity of working to increase understanding across disciplines or professional boundaries" (Head, 2010, p. 110), characterised by the repackaging and dissemination of research evidence to align with the needs and timeframes of practice, and the reconfiguration of practice problems into researchable questions. **Knowledge transfer** is generally characterised as a linear process for moving research evidence into practice. Knowledge transfer responds to the need for research that is diagnostic or can shape early thinking and policy analysis through core ideas, concepts and options (Nutley et al., 2007; Edwards, 2010b). Where knowledge transfer involves one-directional learning, **knowledge exchange** is more interactive and involves mutual sharing and mutual learning (Edwards, 2010b; Head, 2010). Herein, mutual knowledge sharing "dissolves the boundary between producers and users – all forms of expertise … are considered valuable and contribute to knowledge production" (Phillipson and Liddon, 2007, p. 5). This rationale reflects observations from organisational psychology, where members of a group are more likely to value and act on information when it is seen as coming from someone from their "extended community" (Mols et al., 2010).

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The work of knowledge brokering has been catagorised into three key approaches or models (Oldman and McLean, 1997; Ward et al., 2009). Translation, transfer and exchange are variously present in each of these models.

Knowledge management aims to address the technical divide between research and practice by translating research into language and outputs that are practice-relevant, including executive summaries, infographics and slide decks. Knowledge management may also involve helping practitioners to convert practice issues into research questions and commission relevant projects (Ward et al., 2009).

Capacity building aims to help researchers and practitioners develop the mechanisms, acumen and skills for effective knowledge transfer and exchange. Bespoke professional learning is a common feature of capacity building; programs target researchers' communication skills and understanding of the public sector environment and policy processes, and help practitioners understand research evidence and how to use it in the work of government (Ward et al. 2009). While evaluations find that capacity building interventions increase access to and the ability to use research evidence (Dobbins et al., 2009; Dobbins et al., 2019; VanLandingham and Silloway, 2016), systemic change requires more than technical interventions. Sustained partnerships are also necessary, as they allow for ongoing learning and refinement as capacity develops (VanLandingham and Silloway, 2016; Robeson et al., 2008).

Linkage and exchange focuses on opportunities to bring researchers and practitioners together (Orr and Bennett, 2012), including through sustained stakeholder consultation and research partnerships (Buick et al. 2016; Reddel and Ball, 2022; Fotheringham et al., 2021). Linkage and exchange activities embody the defining feature of knowledge brokering: relationality. Knowledge brokering relies on and adds value through connections and collaboration (Bell and Head, 2017, Wye et al., 2023; Cvitanovic et al., 2021). In their examination of the processes and conditions that support the use of research, Nutley et al. (2007) observe:

> One of the best predictors of research use is ... the extent and strength of linkages between researchers and policy makers or practitioners. Personal contact is crucial ... Interpersonal routes for getting research into policy seem particularly effective (p. 74).

Knowledge brokers must therefore be skilled in negotiation, facilitation, and communication and information sharing (Bornbaum et al., 2015), skills that help them develop networks and introduce new perspectives and ways of approaching evidence production and use.

There is a particular emphasis in the literature on the role of individual knowledge brokers. Analysis focuses on the various tasks performed (Auld et al., 2023; Bornbaum et al., 2015) and the necessary skills and disposition of the individual (Phipps and Morton, 2013; Lomas, 2007). Kislov et al. (2017, p. 111) observe that this preoccupation with "cataloguing" has done little to contribute to critical analysis or establishing an understanding of *how* brokering operates in practice and the relative effectiveness of different approaches.

Knowledge brokering and the actors who perform are often described as operating in between the worlds of research and practice, and the gap therein (Lomas, 2007). Descriptors like neutral arbiter and honest broker are common in the literature, a position that lends credence to the broker as a credible actor able to work with various stakeholders and share knowledge on equal terms (Cvitanovic et al., 2021; Fotheringham et al., 2021; Abdo et al., 2021). However, this characterisation does not fully capture the complexity of the brokering process. It is deep contextual insight and context knowledge (in the case of this research, public sector and/or policy domain knowledge)– what has been described as "embeddedness" (Kislov et al., 2017, p. 109) and the "passport of legitimacy" (Williams, 2002, p. 119) – that give brokers the credibility to move between the worlds of research and practice and act "as a negotiator and translator ... working to create equivalence in

understandings" (Williamson and Leat, 2021, p. 6). Mayer (2010) suggests that it is more appropriate to view knowledge brokering in terms of peripheries and the movement that occurs at and across them:

> Knowledge brokers produce, enable, and facilitate movement, and they themselves are in movement. They move back and forth between different social worlds. Not only are they transferring knowledge in one direction only, they are engaged in an exchange of knowledge through moving between places (p. 123)

The literature generally characterises impact and evaluation in relation to knowledge brokering in one of two ways. The first is a systemic one, relating to how brokering efforts contribute to effective, sustained research-practice relationships and governments' capacity to deliver evidence-based policy and programs. The second is a narrower conceptualisation, focusing on the implementation and utility of evidence and the subsequent changes and/or improvements in policy, programs, or practice (MacKillop et al., 2020).

The complex social activities involved in knowledge brokering and research utilisation, as well as project-specific outcomes, are difficult to define and measure. There is a tendency towards article-level metrics, such as downloads, citations and commissioned work, as well as self-reported assessments (MacKillop et al., 2020). Temporal forces further compound impact and evaluation challenges. The idea that outcomes can be identified at the end of a project does not reflect the reality of knowledge brokering efforts directed at longer-term system-level change and policy impact (Fisher, 2012). The absence of rigorous evaluative evidence can make it difficult to build a case for the value of knowledge brokering and, in turn, justify the commitment of resources to brokering services (What Works Network, 2018; Kislov et al. 2017).

4. Findings

In our analysis of the interview data, we identified four key themes relating to the function and practices of knowledge brokering and how to establish better research-practice collaborations in support of public sector reform.

The relational nature of knowledge brokering

The interviews confirmed the fundamentally relational nature of knowledge brokering. While relationality is treated as its own key theme, there is considerable permeation into the other themes discussed in this report.

The significance of relationality was apparent in all participants' self-assessments of the function of, and activities involved in, knowledge brokering. They challenged the idea that knowledge brokering was simply a matter of research dissemination. Instead, they described themselves as being interested in creating the conditions for collaboration and knowledge transformation and implementation. The language of connector, partner and translator was consistent throughout the interviews.

> *I think there's a need for organisations like [ours] to be that kind of trusted middle ground, that trusted advisor or partner that has an understanding of the policy context and also an understanding of the research world and … can speak both languages and interpret for either side. The two sides are generally aiming to achieve the same thing … they have the same goals [but] the way that they go about them is … vastly different (AIP3).*

Participants from all three cohorts relied on established networks to learn how, where and who to engage with to move between and garner influence in the worlds of research and practice. Building and sustaining relationships was described as a core feature of effective knowledge brokering. Sustained networks were seen as particularly important in public sector contexts, where staff

movement within and across agencies is common. Participants built and maintained networks through formal structures like advisory groups and designated contact officers. More common, however, were informal channels and outreach activities, including "free phone calls" (AUBP5) and "having coffees and talking to people" (AGBP5). Informal arrangements and existing connections regularly helped participants secure contracts, positioning them as the known actor, easier to engage with than via formal tender processes. This was particularly useful when just-in-time evidence was required.

Reputational cache and trust were particularly important for maintaining and leveraging relationships and networks; as one interviewee reflected, "no one trusts the evidence, people trust the person" (AGBP4). Reputation was broadly conceived, encompassing subject matter expertise, institutional links, networks, and a record of completing government contracts. Several participants described how they used relationships and reputation to secure contracts.

> *[Practitioners] don't know who to talk to … If I've already got pre-established relationships, it's much easier to make that connection when I have this kind of random thing that I need some information and input on* (AGBP5).

> *It's about … having the right skills to be able to engage those people … to manage and sustain those relationships over time, so that if you contact someone that you haven't seen or talked to in 10-years, they know they can trust you and … know you're reaching out for a really important purpose, and they'll likely make themselves available … It's not only about my personal networks … it's about the networks of the [other] advisors and the membership base … that we can tap into, which is incredibly helpful … and something that I use every day* (AIP3).

Effective knowledge brokering requires more than being an agnostic intermediary. Interviewees described themselves as steeped in both context and content. Participants generally had some level of prior experience working in universities and/or practice contexts, including employment, secondments and commissioned research projects. Participants were cognisant of how this experience and sector relationships grant them a unique cross-sectoral understanding and the ability to identify what can be translated and shared across the research-practice gap. We heard how existing relationships helped ensure participants were alert to emerging areas of interest and could plan accordingly.

> *If we're on speed dial then we will be asked about all of the things that are happening and we will be able to influence those things* (AGBP4).

> *Sometimes it's just a question of being at the table, and if you're not at the table, you don't hear the conversation* (NZGBP4).

> *It [secondment program that embeds public servants in a university team] means you've got a continual stream of people who've got a sense of what the current discussions in government are, what people are thinking about, what matters … where the gaps are and … the issues that people are grappling with … It helps in terms of if you're pitching projects or work or research … just in terms of the quiet intelligence gathering* (AUBP1).

While reputation was a central theme among Australian and Aotearoa New Zealand participants, the apparent concentration of the latter's research, practice and knowledge professional communities made this a particularly significant consideration. Reputation and word-of-mouth recommendations typified this. The director of one university-based research institute described using relationships over time to establish a reputation with practitioners as they moved through the NZPS.

> *You build up relationships and those people move on to other roles and … word gets around about you if they recommend you to somebody else. Eventually, we then got up bigger*

projects with agencies, then bigger and bigger and … now we're doing multi-year, multimillion-dollar projects … But you can only get to that point if you've shown consistently good outcomes … a reputation that you will deliver on time, that it will be useful (NZUBP1).

The relational nature of knowledge brokering is not without its challenges. Despite the language of partnerships and reciprocity, participants often prioritised the needs and perspectives of practitioners. This tendency was apparent across all three cohorts, with participants wanting to ensure outputs that were relevant and impactful for practice. This is not unexpected, given the objectives and rationale of knowledge brokering. Participants were aware of how fee-for-service arrangements complicate both independence and relationality. Fee-for-service contributes to the risk of overpromising or disregarding the original intentions of research to tell the government *client* what it wants to hear to secure a contract or repeat customer.

Too often it's government has the money, researchers want the money, and that's kind of a contractual, transactional approach (AUBP1).

We have to earn … we have to bring the dollars in to keep the doors open (AUBP3).

While a concrete solution was not apparent, some participants operating in universities and separate intermediary entities suggested that multiyear projects and dedicated agency research funding could protect against undercutting, overpromising and the substandard quality research that can come as a result.

Participants from government and independent entities (particularly larger, more established organisations) were generally enthusiastic about the utility of existing networks and informal outreach activities. Participants from universities and smaller non-for-profit organisations, however, were more likely to report complications. Existing relationships and informal arrangements were seen to reinforce expectations within government that academics provide free advice. This was generally to test the feasibility and provide input on the scope of a project before it went to tender. In these instances, elements of the current procurement model were described as a barrier to meaningful, mutually beneficial collaboration. This includes restrictions on intellectual property and publishing and the standardisation of contracts and the considerable effort required to make amendments for short-term contracts that pay researchers for small-scale collaborations.

Informal arrangements were generally seen as acceptable *if* a contract was ultimately secured; however, it was not uncommon for researchers to provide early input, only for the contract to be awarded elsewhere. One university-based participant shared how this experience explicitly prevents meaningful collaboration and erodes existing relationships.

They [government] were going to develop a tender. We worked with them really closely, helped them ... highlight the sorts of areas they wanted to do … work around. We bid for it, and they gave it to a consultancy. The consultancy then couldn't deliver that piece of work, and then the agency came to us and said, would we do the work for free with the consultancy and sort this out for them? … That was really frustrating, having thought you had kind of a good partnership there and you were going to get somewhere (AUBP2).

She went on to describe a perceived double standard when it came to commissioning services from universities and for-profit consultancies.

You do sometimes get from agencies the perspective that … you could just do this stuff for free, whereas consultancies … obviously have to be paid, and often considerably more than you'd be paid for a piece of research (AUBP2).

The situation described is a reminder of the inherent contradictions in the current higher-education system. Academics' salaries are paid from public funds and their expertise is generally seen by government as a public good, freely available, yet at the same time as the impact and engagement

agenda reinforces transactional, monetised collaboration. The question then is what are the limitations on free advice housed within public institutions and the forms this advice takes? At the least, one might assume that governments should not expect something for free if they would pay private consultants for it.

Producing brokered knowledge

Participants discussed the features of impactful outputs and outcomes from research-practice collaboration, what we will call 'brokered knowledge'. Brokered knowledge is that which identifies the practice problem and relevant research evidence and transforms both into something that is mutually understood and workable.

Participants discussed the importance of problem definition in helping practitioners navigate bounded rationality. The creation of brokered knowledge begins in the earliest stages of a project or intervention. Knowledge brokers work with practitioners to better understand the nature and scope of their problem and their evidence needs, then design a project or intervention in line with this. We heard that problem definition is not a linear process, complicated as it is by imprecision, capability gaps, and political sensitivities. Practitioners are often unclear about the problem they are trying to solve, often described as asking the 'wrong questions' of research. Expectations and scope that are imprecise can slow project planning and execution. Indeed, one university-based participant described a situation in which "a grand, broad, vague vision" from the commissioning government slowed progress. This resulted in "micromanagement" (AUBP3) by the government, who feared the project would not be delivered on time, ultimately eroding trust between the researchers and practitioners.

There were varying levels of formality and replicability in the approaches used during problem definition, ranging from formal commissioning tools to more informal, exploratory conversations that iteratively refined the problem at hand.

> There's a commissioning form ... and that really goes to the heart of ... what is this trying to do? ... How's it going to be used? ... What are the next steps that would be taken with the results? Really getting the commissioners to think about that upfront (NZGBP3).

> Often, they have kind of a very broad, amorphous idea of what they want know, and that's not something that you can answer through research. So, it's a real process to help them kind of nail [the question] ... so that it can be tightly defined and then well-articulated and researched … You just need to have a lot of conversations with them … and ask them a lot of probing questions about the issues that they're facing, about the decisions that they're grappling with, about what their actual constraints are [otherwise] you give people very impractical recommendations that they will never be able to implement (AIP1).

While there is no standard set of problem definition questions, a common theme was prompting practitioners to think about their evidence needs at a granular level.

Questions included:

- Why is the evidence needed?
- What do you already know about the issue at hand?
- What is the desired output and who is the intended audience?
- How will findings be implemented?
- What are the desired outcomes, and how will they be measured?
- What are the resource considerations (e.g. data access, critical timelines, capabilities, etc.)?
- What is the authorising environment?

A common theme was the vulnerability required of practitioners in the problem definition phase, where they may have to disclose sensitive information or admit what is not known. Successful problem definition relies on "embeddedness" (Kislov et al., 2017, p. 109) — a careful blending of trust and technical knowledge and skills. Without this, brokers are left to rely on inference, significantly limiting their ability to produce brokered knowledge (Moore et al., 2018).

> *When you have that buy-in and that trust and those existing relationships, that's when you can make a difference because that opens up people to hearing you, it opens people up to collaborative thoughts* (AGBP3).

Through problem definition, knowledge brokers reformulate practice problems. The second feature of problem definition is clarifying for researchers the nature of the policy problem and its context and transforming practice problems into something that research can reasonably respond to.

Participants described knowledge brokering as helping researchers understand that evidence-based approaches are more of an ideal than reality; what counts as useful evidence is not fixed, but changes depending on power relations, institutional considerations, the questions being asked, and the people involved. Here, negotiating different attitudes towards certainty was a particularly salient point. Where practitioners must make decisions quickly in the face of uncertainty, and are more comfortable with a degree of generalisability, researchers operate in a world of technical certainty and specificity. Knowledge brokers work to identify what in the research findings is reasonably generalisable and translatable. This involves co-creating with researchers new ways of understanding the production, meaning and use of research evidence.

> *It's important to be clear, to signal the level of certainty that's available … technical uncertainty in the research context … is quite different to the uncertain impact that that research finding would have if you applied it to a policy problem* (NZGBP5).

While establishing the point of relevance is an important aspect of producing brokered knowledge, equally so is how this knowledge is packaged and communicated. Participants often characterised brokered knowledge as action-oriented, translating the practice-relevant points in the research into practical insights and recommendations. One university-based participant shared advice for other researchers looking to pursue advisory relationships with government:

> *When you're writing for public servants, they have to make a decision ... so they're just not going to look at your research unless it comes to a point … If you're not propositional, they are not going to read it* (NZUBP1).

There was a strong view that brokered knowledge is both *implementable* and *instructional,* including specific guidance on how and where evidence can be applied to improve processes and help public servants do their jobs well. Participants facilitated action by including implementation plans as key project outputs, identifying who is responsible for implementing a recommendation, and providing practical advice for the resources and capabilities needed to implement evidence in practice.

> *I really think that it's that implementation into policy and practice piece that's really important. It's one thing to give people the evidence, but to make sure that they're actually using it correctly and impactfully is the big missing piece* (AIP1).

We regularly heard that persuasion and the related interpersonal skills were critical to producing brokered knowledge. Persuasion was largely seen through the lens of convincing practitioners to act on recommendations. This included strategically framing an idea or crafting a narrative to 'sell' evidence or a recommendation.

> *You want to write in a way that they take up the recommendation, but also don't be defensive that you're pointing [out] that there's something they're not doing currently that*

they should do … They need to almost think it was their idea, or that they collectively worked with you to kind of come up with this idea (NZUBP1).

You have to tell the story about why it matters and who it matters to … and how big a difference it makes … You have to do that from the perspective of the people you're trying to influence. So that's where I think a bit of the pragmatism comes into it …

If you are expecting someone to back something … you want to give them every reason to do it and have thought about all of the things that increase the likelihood of success (AIP4).

Participants observed that their ability to persuade practitioners relied on problem definition and knowledge of the political and other contexts, developed over the course of a relationship or project. These insights helped participants from all three cohorts understand the forces shaping how evidence would be received and frame recommendations as the best course of action. Establishing trust during problem definition was also key, as it afforded participants greater credibility to make recommendations.

When you have those ongoing and continuous relationships, it certainly makes it easier because you've got a much better understanding … of what the organisation is trying to achieve, but also the people and the personalities and the styles and how best information should be communicated (NZIP2).

Brokered knowledge is exploratory, transformative, and instructional as both the research evidence and practice problems are negotiated and reformulated until something mutually understood is produced. Here, the contingent nature of evidence strengthens the case for knowledge brokering as a distinct function and process; in addition to political and social forces, knowledge brokering is itself a force shaping knowledge production and use. Our analysis reflects findings elsewhere in the literature. Meyer (2010) for instance, observes:

In the case of knowledge brokering, this collective exploration is based on two key movements. On one hand, there is a translation of knowledge from one world to another. On the other hand, we see efforts to make knowledge socially, politically, and/or economically robust. So both the translation of knowledge and the translation of accountability/usability take place. The end result of these translations is the production of a new kind of knowledge – what we could call brokered knowledge. Brokered knowledge is knowledge made more robust, more accountable, more usable ... knowledge that has been de- and reassembled (p. 123).

Creating the conditions for collaboration

A key aspect of knowledge brokering is creating the conditions for collaboration. We identified three common features for creating these conditions:

A **foundation of mutual trust** emerged as the most important prerequisite for creating the conditions for collaboration. Participants agreed that helping researchers and practitioners to view one another as trusted collaborators requires significant cognitive adjustments over time. This process begins by creating opportunities to bring the two groups together to exchange ideas. Ideally, these interactions will:

- Occur in the earliest stages of the project
- Be facilitated by the knowledge broker
- Occur face-to-face

The knowledge broker facilitating these interactions act as an intervening force, able to disrupt entrenched biases and encourage new ways of approaching one another and the production and use

of evidence. We heard that these interactions not only help researchers and practitioners view one another as trusted collaborators, but also help build trust in the knowledge broker themselves.

> *A lot of our work focuses on getting the right mix of people into a room to … exchange ideas. We try and set up the conditions for collaboration to … bring expertise from the different sides together that relate to some kind of common area of interest … We're trying to get people to collaborate ... get them thinking differently too* (AUBP1).

> *We can bring together officials, businesses, civil society organisations and researchers … And we do it upstream of decision-making and consultation, which has constraints and formalities … and puts people into lobbying mode because decisions are imminent and they're trying to defend their patch* (NZIP3).

Participants reflected on the importance of **getting planning and proactive management right** to help to set expectations, avoid misunderstanding, and steward the delivery of a project.

> *[Expectations have to be] baked into the contract itself … there's no point in navigating it after the contract is signed* (NZUBP1).

Examples of tools and processes for planning and proactive management included:

- Commissioning forms
- All-in 'kick-off' meetings
- Steering committees
- Relational contract negotiation
- Governance arrangements and risk management
- Agreed reporting milestones

Planning and proactive management is not only useful in terms of project management, it can also promote greater alignment between researchers and practitioners. For this reason, participants described planning and proactive management as most effective when approached collaboratively.

Opportunities for regular contact and collaboration through avenues such as regular progress meetings that share early findings and research briefings can help establish a shared purpose and embed collaborative – rather than competitive – ways of working as the default.

> *[Success] comes back to that really clear planning process at the beginning, bringing everyone into the tent, being really transparent about the purpose, who the information is for, why they need the information and what it will be used for ... and then bringing everyone along for the journey throughout the entire process* (AIP3).

> *If people have more ownership over [a project] in the first place, if they've decided some of that stuff [project design, planning and management] … then they're probably more likely to pick that up in ... practice. So we organise the whole governance around that* (AUBP2).

When it comes to successful collaboration in the active research phase, we heard of the importance of sharing early findings. Many of those we interviewed reported that this management practice helped sustain government engagement and provided assurance that findings would be useful and providing opportunities to brief senior decision-makers and make them aware ahead of public release. Some government-based and independent participants did report reluctance among researchers to share early findings, with a view that an incomplete picture risked the quality of research and decisions made as a result.

> *I think the number one thing in trust is no surprises, and so you do try to let people know where you're heading* (AIP4).

> *[In] regular project management meetings we go through any things that are … a risk … It's just flagging potential roadblocks, coming up with solutions … as well as feeding back early findings, talking about what they might mean and how they can inform the future delivery of the project* (AIP3).

These observations are generally consistent with those in the literature (Cvitanovic et al., 2021), where regular contact and collaboration are seen to support process transparency and improve trust and understanding. The practice of sharing of early findings is described as "quick wins" (Reed et al. 2014, p. 341) for researchers and an opportunity for practitioners to prepare for implementation.

We heard that the work of knowledge brokering relies on and revolves around **enabling the evidence ecosystem**, including: the authorising environment for collaboration and evidence-based innovation, research and evaluation literacy, data collection and data-sharing infrastructure, and continuity of funding.

Among the Australian cohort, we observed generally high levels of optimism about an evidence ecosystem and the future of research-practice collaboration. This was likely due to the APS Reform agenda's explicit commitment to addressing public sector challenges in partnership with the academic sector. Recent efforts towards realising the reform agenda include a one-day workshop convened by the Department of Prime Minister and Cabinet (DPMC) in July 2023. The workshop participants included academics, APS nominated Sir Roland Wilson PhD and Pat Turner scholars[5], and senior public servants; they examined mechanisms and practices to enhance research-APS collaboration. The workshop outcomes report indicates optimism that – with strong support from both government and academia – there is a genuine opportunity to test innovative approaches for enhancing collaboration between the two sectors. However, the report makes clear that collaboration is not a checklist, nor will it occur as the result of one technical intervention (Ball, 2024).

Several interviewees in the Australian cohort described the reform agenda as providing an authorising environment for evidence-based innovation. Despite this optimism, some participants echoed the cautions of the DPMC workshop outcomes report. Participants noted the significant investment needed in the data infrastructure required for evidence-based policy and practice, as well as adjusting timelines and expectations of data utility while a pipeline of evidence is being generated. This sentiment was particularly prominent in relation to ACE.

> *There's a push from government to do more evaluation, demonstrate your value, demonstrate your impact … The issue that I'm having, that everyone is having or will have, is that there's just no data … They [government] are trying … there are some pockets of work happening across the Federal and State governments to try and better integrate their data collection mechanisms … and improve the quality of data that they're collecting. But until that's done, there's really no way of doing any rigorous, effective evaluation at all … Until we have these systemic enablers of evaluation sorted … so the data mechanisms, the governance mechanisms, the funding mechanisms, and the communication and translation mechanisms … I really do think government, by going in so strong, is setting itself up to fail* (AIP3).

We heard from Australian and Aotearoa New Zealand participants that shared responsibility from government and academia for enabling the evidence ecosystem was needed to achieve system-level

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[5] The Sir Roland Wilson PhD Scholarship and Pat Turner Scholarship program supports high-performing APS employees to undertake PhD and MPhil research on topics of public interest and strategic priority, of relevance and enduring interest to the APS; they do so with the express support of their agency. The program aims to build connections between academia and the APS, and drive the development of evidence-based public policy and practice (APS Academy, 2021).

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change. There was a view that mutual responsibility would increase the likelihood of arrangements and outcomes that were mutually beneficial.

> *What you need is a shared accountability for the ecosystem and a shared accountability for identifying that all of the … attributes and characteristics are present* (AIP7).

> *It would be great if government would start to recruit for … a range of skillsets, so there's more people within different departments who do have that ability to access and use and apply evidence* (AIP1).

Participants discussed the importance of investing in mechanisms that create opportunities for researchers and practitioners to connect and collaborate. Wherever possible, these mechanisms should be formal to provide research-practice partnerships with greater legitimacy and help embed new capabilities and ways of working.

Suggested mechanisms included:

- Regular conferences, workshops and roundtables that bring together researchers and practitioners.
- Secondments and embedded fellowship programs.[6]
- Expert panels and directories.[7]
- Cross-sector project steering committees.
- Dedicated knowledge brokering professionals or units within the public sector.[8]

The need for sustained investment by government was particularly prominent among Aotearoa New Zealand participants, both in terms of investing in public service capabilities and funding research institutions and infrastructure. Aotearoa New Zealand does not have an equivalent to the Australian Research Council (ARC), and participants described a trend towards shorter-term, project-based funding that delivers inconsistent effort and data. Participants described having to contend with government dissatisfaction when they are unable to produce evidence-based advice or evaluations.

> *The New Zealand Public Service doesn't have leadership for learning or evidence collection. We've had institutions that have come and gone and there's never been a commitment to them because they always end up being inconvenient … We talk about evidence-based policy and then we don't set up a system to actually enable that … then we wonder why it doesn't happen* (NZGBP8).

> *Governments identify an urgent need for information that really needed … five years of research behind it … and then they reach out and ask someone to deliver something within four-to-six months. And then there's no continuity of funding in between these requests … What's supposed to happen to the organisation during the five-year gap until the next urgent*

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[6] There are several existing programs that host academics in public sector agencies, including the Australian Science Policy Fellowship and the ARC Industry Fellowships (Fussell, 2024). A key distinction here, however, is that programs are mutual and, ideally, project-specific. This approach signals the value of *both* researchers and practitioners gaining a greater understanding of the perspectives and processes at play in one another's operating environments.

[7] The Behavioural Economics Team of the Australian Government (BETA) Academic Directory is an example of such a tool to help support engagement and alignment between the APS and behavioural economics research community (BETA, 2017). For tools such as this to be most effective, they must be regularly updated and circulated. The updating and circulation schedule for the BETA Academic Directory is unclear, with the last known update in 2017.

[8] A recent workshop convened the Department of Prime Minister and Cabinet examined the mechanisms and practices to enhance collaboration between research and Australian Public Service. The workshop report details how a knowledge brokering unit could operate in the APS. (Ball, 2024).

need comes up for modelling? ... They expect the knowledge to be available without being willing to fund it in advance (NZIP4).

For efforts to generate sustained, systemic change, they needed to be accompanied by an attitudinal shift around the role of evidence and collaboration in government decision-making. This shift can be driven at a bureaucratic level.

Despite the demand for greater research-practice collaboration and the proliferation of knowledge brokering activities in universities and government, participants from all cohorts described limited formal opportunities and incentives to perform these functions. We heard that cross-sector engagement is generally not valued in terms of professional development or promotion; instead, brokering activities are often taken on by individuals in addition to regular duties.

If you expect your public servants to have the best evidence … they actually have to get out and listen and be part of conversations and make connections ... There has to be time built into their schedules to do that. There have to be KPIs around that. There have to be opportunities for them to go and attend conferences … you know, leave the building (AUBP5).

How do you ... make time for [engagement] and see that as valuable? ... Within the university, there's a sort of perverse ... mantra that we've got to be more engaged, more impactful, more real-world focused. But some of the incentives [within universities are] counter to that. It is about publishing, it is about, you know, meeting all these metrics. But that takes time away from doing the relational work (AUBP3).

Participants discussed the utility of KPIs for cross-sectoral engagement and improved research/practice literacy, more generous intellectual property and publication rights, payment for open access, and more transparent and flexible procurement processes. Again, mutual accountability for promoting a culture shift was key; this signalled shared appreciation for research-practice collaboration, legitimising these collaborations alongside the other conventions of working in academia and government.

An exemplar of how bureaucratic-level mechanisms work to drive a cultural shift came from a participant at a dedicated government-based research centre. She emphasised the significant cultural shift that occurred when organisational changes explicitly brought the centre into the agency and its core functions.

I just wanted to emphasise the shift in recent years from ... kind of sitting outside of the main department ... to being brought within the departmental functions … We [now] undertake research and provide evidence to support the rest of the department with what they need and no longer kind of just conduct research on what we think is interesting or are emerging issues ... I think there was also a change in the way that evidence was viewed, so it was more considered within decisions and programs and policies, and it was seen to be something that needed to be feeding into that process (AGBP2)*.*

Impact and evaluation

When asked about impact and evaluation, participants tended to conceptualise impact and evaluation in terms of implementation and utility of evidence and the subsequent changes and/or improvements in public debate, policy and behaviours. Influence was a particularly salient theme.

We use it the word [impact], but fundamentally we really think about influence (AIP4).

We look … for demonstrable moments of impact … very specific moments where something has changed. So, government has done something differently because of [our] work ... or somebody who has been through our education program has directly attributed some piece

of success in their organisation to the work that we have done. That's what I'm always looking for (AUBP5).

The complex social activities involved in knowledge brokering and research utilisation, as well as project-specific outcomes, are difficult to define and measure. There is limited existing systemic analysis of the impact and effectiveness of knowledge brokering (Ward et al., 2009; Kislov et al. 2017; MacKillop et al., 2020). These challenges were consistent with the experiences of our participants, who tended to rely on proxy indicators of impact. Participants generally concluded that a mixture of qualitative and quantitative measures was the most appropriate option for determining impact; qualitative approaches were the most common.

- Quantitative measures included: media engagement, citations in policy documents and in Parliamentary material, the number of outputs, and returning clients.
- Qualitative data included: research commissioner feedback via surveys and post-project debriefings and interviews.

Participants acknowledged several limitations when accessing and evaluating proxy indicators. For instance, government commissioned work focusing on driving internal process improvements will rarely be reported on publicly. Other participants noted that quantitative indicators cannot account for the unique considerations that come with the public sector context. Herein, impact is non-linear, with budgetary constraints, election cycles, and pre-existing relationships shaping how evidence is received and operationalised.

> *Maybe there was a change in government ... between when the inquiry started and when it ended. The political appetite just isn't there for the results that were produced and it just doesn't get picked up ... Sometimes I think it is just timing. Sometimes the results … [do] get picked up … just five, six, 10 years later* (NZUBP1).

We identified varying levels of rigour, formality and replicability in the approaches adopted. Several participants reported stakeholder surveys and post-project interviews, which generally focused on perceived benefit.

> *I think the only way you can measure it in any sensible why is to ask the people who you're actually trying to influence whether they've got benefit from it. Can you create clean data out of that? I doubt it, I doubt it* (AIP2).

> *We do follow up, we just don't do it necessarily systematically, I think it just happens organically through our relationships* (NZUBP1).

> *Every couple of years we've started doing a survey of [our] stakeholders ... and said what impact has our research had on you and your organisation? What impact have you observed that it has on New Zealand in general? ... We just go out and ask people, really, and we don't get a huge response to the survey, but it's enough to give us a sense of how things are tracking over time* (NZIP3).

Other participants – generally from larger, more established entities with experience in conducting program evaluations – described more rigorous, systematic evaluative practices; these were less common. An exemplar model came from a participant from a large independent Australian knowledge brokering entity. She described a formal evaluative framework for assessing impact, which was accompanied by different measurement tools, each targeted at different levels of seniority and aspects of evidence-based policy and practice.

> *We developed three tools … One is … an interview with senior leaders about what systems and structures they have set up in their organisation to support the use of evidence, and so we measured change over time … using stepped wedge design. The second ... is an interview with one or two people who are most integrally involved in actually producing a policy*

product, and that's about whether and how they used evidence in that work. And the third measure that we developed [is] a self-report survey for staff about their skills and confidence in using evidence, the extent to which they think their organisation supports or requires it. We measured all of those things every six months (AIP1).

Those participants who employed more rigorous strategies generally planned for impact and evaluation, both in terms of the impact of the project and the knowledge brokering activities involved. This included using commissioning forms, pre-project consultations, implementation pathways, and translation and dissemination strategies to plan for and monitor impact.

We observed some differences across the independent, university-based, and government-based cohorts. Participants from independent and government-based organisations generally used commissioning forms to plan for impact. Questions focusing on the problem at hand, how the proposed project aligns with governments' principles and priorities, and how findings will be implemented helped knowledge brokers to co-design measures with research practitioners. Australian university-based participants were generally guided by the ARC definition of research impact[9] and by the corresponding Research Impact Principles and Framework, which sets out the operational considerations for defining, measuring, and reporting research impact and the Research Impact Pathway (ARC, 2022). For these participants, planning for impact might involve:

- Using pre-project consultation with funders and other stakeholders to agree upon outcomes, measures of success and specific indicators.
- Mapping stakeholders and their involvement, including identification of key drivers of change in policy, programs, and practice.
- Setting research impact goals, such as including implementation pathways as part of a project contract and developing knowledge translation and dissemination strategies.
- Establishing a loop-closing process to follow-up on implementation impact with funders and other stakeholders.
- Tracking item-level indicators of impact, such as citations and instances of evidence implementation.

Despite the challenges involved in impact and evaluation and differences in approach, the sub-section of participants who formally planned for impact and evaluation agreed that this helped them design a theory of change.

While planning for impact and evaluation was seen as useful, when proposed with the potential for a standardised planning tool (e.g. a checklist) there was general hesitancy among interviewees. We heard concerns that a checklist would be overly prescriptive or viewed as a compliance measure. Instead, some participants encouraged other knowledge brokers to include impact and evaluation planning as a phase in all projects, guided by frameworks and tools that were tailored to the discrete needs of the audience, policy areas and objectives (of both the research end-user and the knowledge broker's own strategic goals). This would be most effective when it involved the research end-users in government, as it helped inform a shared vision for success and contextualise what impactful evidence looked like within the practice environment.

5. Implications for knowledge brokering practice

This research set out to answer the question: *How can knowledge brokers establish better research-practice collaborations in support of public sector reform?*

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[9] Research impact is the contribution that research makes to the economy, society, environment or culture, beyond the contribution to academic research (ARC, 2022).

Our research confirms that knowledge brokering is more than a simple matching exercise; it relies on technical solutions *and* complex *s*ocial and political forces. This is true in terms of how knowledge is produced, accessed and used, and creating the conditions for collaboration that support these processes. The knowledge professionals who participated in this research were acutely aware of these forces and the opportunities and challenges herein.

Purposeful knowledge brokering is relational and symbiotic. Public sector and/or policy domain knowledge complements trust to cement the reputation and authority of the knowledge broker to introduce new perspectives and promote new approaches to evidence production and use. Our analysis somewhat challenges the prevailing characterisation of knowledge brokers as neutral intermediaries. More than strict bipartisanship or the quality of research evidence – while certainly still important – it is content knowledge, contextual insight and connections that served as the basis for the trust necessary for effective knowledge brokering.

Our research finds that evidence production and mobilisation is an exploratory and transformative process. This changes the nature of research evidence, making it more fluid and responsive; this demands that researchers and practitioners take on new ways of understanding the production, meaning and use of evidence. We see brokers as playing a distinct role in developing these new understandings. They de- and reassemble both practice problems and evidence until something mutually understood and useful is produced. In this way, we move beyond the ideal evidence-based approach, and instead emphasise how and under what conditions evidence is produced and mobilised for practice.

Our research strengthens the case for knowledge brokering as a distinct function, with particular skills, processes and considerations at play. This challenges the idea that researchers simply need to make more and better connections with government to improve evidence uptake.

There are three main implications for how knowledge brokering practices and mechanisms can be improved to help establish better research-practice collaborations in support of public sector reform. These implications span the activities and processes involved in knowledge brokering, as well as the system-level enablers within universities and government that can support better collaboration for evidence-informed public sector reform.

We have also identified six good practice principles for knowledge brokering (Table 1). The intended audience for these practice principles is university-based researchers, public sector practitioners and knowledge brokers. Where relevant, specific guidance for different actors has been indicated in the table below. These practice principles are not intended as a prescriptive how to guide; collaboration cannot be reduced to a checklist. Instead, they are presented as critical success factors, foundational for establishing better research-practice collaboration in support of evidence-based public sector reform. We accordingly encourage that these principles are considered when implementing knowledge brokering interventions.

Table 1: Good practice principles for knowledge brokering

	Good practice principle	Application	Outcome
1.	*Build and sustain networks*	**Knowledge brokers** engage in two-way dialogue with researchers and practitioners to better understand their needs and motivations, manage expectations across groups and tailor their approach to effectively bridge gaps and	Relationships are fostered over time to build a deep understanding of stakeholders' needs, interests and constraints and cement the reputation and authority of the knowledge broker.

		facilitate mutually beneficial collaboration. Networking activities are broad, varied, and ongoing.	Building and sustaining networks can be challenging in public sector contexts, where staff regularly move between agencies, making trust-building and reputation particularly important.
2.	*Facilitate collaborative spaces and processes*	**Knowledge brokers** arrange and manage meetings of steering-committees, advisory bodies etc. to collaboratively plan, monitor, and deliver a project. **Knowledge brokers** establish a schedule for regular project meetings to discuss project development. **Knowledge brokers** establish reporting milestones and work with researchers to translate and communicate early findings back to the research-end user. The **public sector** develops mechanisms for research-practice collaboration, such as mutual secondment programs, expert advisory groups etc., and **Knowledge brokers** provide guidance to ensure not just more but also better research-practice collaboration.	Collaborative spaces and processes enhance the effectiveness of knowledge exchange. Different perspectives are considered and incorporated into the research agenda, design, and implementation. Two-way dialogue between researchers and practitioners facilitates open discussions about the goals, expectations, and roles of each partner in the collaboration. A shared vision is established, promoting a trusting, fair partnership and collaboration as the default.
3.	*Encourage and incentivise research-practice collaboration and knowledge exchange*	**Universities** and the **public sector** embed KPIs for cross-sector engagement into performance agreements. The **public sector** increases learning and development offerings for research literacy and partnership and collaborative competencies. Research literacy and cross-sectoral collaboration is encouraged and recognised in	More flexible organisational practices and leadership attitudes around the role of evidence and collaboration embed new attitudes and ways of working. Cross-sector engagement, research literacy and translation activities are supported and incentivised at a bureaucratic level.

		public service professional development plans.	
4.	*Promote mutually beneficial arrangements*	**Knowledge brokers** facilitate peer review processes. **Knowledge brokers** advocate for the inclusion of open access fees in contract negotiation. **Knowledge brokers** help negotiate formal reporting requirements and opportunities to share and discuss early findings. **Knowledge brokers** manage tensions between academic independence and relevance for researchers and relevance and responsiveness for practitioners. The **public sector** refines procurement processes, including removing publication restrictions as a standard practice and developing more flexible contract templates.	Good knowledge brokering relies on open and honest acknowledgement of the different priorities, incentives and power dynamics at play in research-practice collaborations. Brokers facilitate open discussion and advocate for arrangements – including contracts, deliverables, timelines, and intellectual property – that are mutually beneficial for researchers and practitioners.
5.	*Tailored planning for impact and evaluation*	**Knowledge brokers** include impact and evaluation planning as a formal phase in all projects, guided by frameworks and tools tailored to their particular public sector and/or policy domain, activities, and objectives. Planning for impact and evaluation helps **knowledge brokers** design a theory of change and assess relative success. Ideally, **knowledge brokers** involve research end-users when setting project expectations and identify appropriate indicators against	Planning for impact and implementing evaluation mechanisms helps assess the outcomes of knowledge brokering activities and the relative benefit of different approaches. By systematically evaluating the outcomes produced and the effectiveness of different knowledge exchange approaches, brokers demonstrate the value of their contributions to stakeholders and promote an internal culture of continuous improvement.

		which progress can be monitored.	
6.	*Implementable and instructional evidence*	**Knowledge brokers** include implementation plans as a key output in projects. **Knowledge brokers** proactively address the resources, time and skills needed to action recommendations and implementation plans.	Brokered knowledge is that which is relevant, effectively communicated and actionable. A formal problem definition process identifies the practitioners' need for change and the point of relevance within research findings, and translates this into something that is practical *and* mutually understood by all stakeholders. Insights and recommendations are implementable and instructional, facilitating action via specific guidance on how evidence can be applied to improve government processes and help public servants do their jobs well.

Opportunities for research-practice collaboration

Australia and Aotearoa New Zealand's respective reform initiatives provide the authorising environment for greater evidence innovation. Effectively leveraging this environment, however, relies on creating opportunities for research-practice collaboration.

Knowledge brokering can support the conditions for research-practice collaboration by leveraging the curated space that brokering interventions can create and bringing parties together around a clear, unifying purpose. Efforts should take a relational approach, prioritising genuine respect for one another and the knowledge each party brings to the collaboration.

Knowledge brokers might oversee and help broker mechanisms such as:

- **Mutual secondments and fellowship programs** that are linked to a specific project and/or involve the practitioner fully in the research process or the researcher fully in the policy process. This mechanism exposes both researchers and practitioners to one another's operating environment and priorities, building greater understanding across the research-practice gap. A key consideration is establishing clear expectations for both the research and outcomes (O'Donoughue et al., 2017; Reddel and Ball, 2022; Ball, 2024).
- **Cross-sector conferences** to facilitate knowledge translation and sharing and provide opportunities to develop networks.
- **Cross-sector workshops and other fora** to explore new ways of knowledge sharing and collaborative problem-solving. Importantly, these events should be underpinned by a clearly articulated purpose, such as focusing on a specific subject area or policy process.

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- **Expert advisory groups** and **regularly updated directories or clearinghouses** to expedite procurement processes by providing a channel through which to quickly identify and directly access research expertise. This mechanism would be particularly useful for short-term contracts to provide advice – for instance, input during the scoping phase before a project goes to tender – or small-scale collaborations. A key consideration is the expense involved to maintain a directory or clearing house (ANZSOG Research Reference Group, 2007); collaboration with the various Academies could be a useful option for ensuring breadth, depth and the recency of research.
- The creation of **dedicated knowledge brokering unit/s** within the public sector. This mechanism could act as an enabler of the other proposed mechanisms, as well as providing bespoke services to connect researchers and practitioners for a specific collaborative project. The Cabinet Office Open Innovation Team model (Ford and Mason 2018) provides a useful exemplar of how a dedicated knowledge brokering unit can operate within the public sector.
- **Training, including joint training,** on how to connect researchers and practitioners, how to understand each other's environment and the forces at play, and how to approach and support collaboration (ANZSOG Research Reference Group, 2007).

These mechanisms are not only an investment in relationality and mutual understanding between research and practice, but they also help knowledge brokers better understand the needs of their stakeholders, consolidating the acumen needed to act with persuasion and authority.

There is a persistent view that the onus is on university-based researchers to drive knowledge mobilisation and create opportunities for collaboration. However, our analysis indicates that mutual accountability by academia and government for creating, participating in and supporting opportunities for research-practice interaction and collaboration offers the greatest chance of success. Shared accountability not only promotes knowledge sharing and understanding, but also signals the legitimacy of research-practice collaboration, thereby increasing the likelihood that new attitudes and ways of working will be embedded in practice.

Encouraging and incentivising research-practice collaboration

Effective research-practice collaboration relies on an evidence ecosystem. A key enabler is developing the public sectors' capacity and capability for research-practice collaboration, such as research literacy. This can prevent an aggregation researchers' responsibilities and promote genuine engagement and collaborative decision making. Much of this must be driven by government, as the operating environment that will ultimately procure and implement evidence; however, this is best done with the support of the research community and knowledge brokering.

Technical mechanisms in support of systemic change include:

- **Investment in a robust data infrastructure**, including improvements in how the government collects, shares (including with researchers) and uses its data for evidence-informed, user-focused policy and programs.[10]

- More public sector **learning and development offerings** focusing on core research and evaluation capabilities.[11]

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[10] The Data Availability and Transparency (DATA) Scheme marks a significant step towards sharing data with researchers (Office of the National Data Commissioner, 2022).
[11] The APS Academy, which identifies Strategy, Policy & Evaluation among the APS Craft, is a useful foundation for this (APS Academy, 2024). However, the current modules dedicated to research, evidence and evaluation literacy are limited.

- **Government-developed tools and templates** to help researchers prepare and deliver evidence for policy, focusing on how public-sector decision-making works in practice.[12]
- **Government research roadmaps and priority areas of interest**[13] (ideally developed with input from research experts) as a key signal of appreciation for research-practice collaboration and evidence-based policy and practice.[14]
- **Procurement processes** that are mutually beneficial for researchers and practitioners. This includes funding opportunities that are formal and transparent, more flexible, short-term contracts that allow small-scale collaborations and respect expertise when it is needed (as opposed to free advice) and removing publication restrictions.
- The expansion or creation of dedicated **knowledge brokering roles**.

For structural changes to be sustained, attitudinal shifts are also required. Central to this is normalising and incentivising research-practice collaboration and the effort involved in brokering relationships and knowledge translation, transfer and exchange. This largely takes place at a bureaucratic level in the form of performance incentives, although agency research budgets and public-facing research agendas are also signals that can drive cultural change.

Bureaucratic-level incentives and supports might include:

- Embedding cross-sector engagement and collaboration in **promotion structures and other forms of recognition,** with **KPIs built into performance agreements**.
- More public service **learning and development offerings** for core research and evaluation capabilities[15] with **KPIs built into performance agreements**.
- **The inclusion of open access fees** and **greater flexibility around intellectual property and publication** in contract negotiation.
- The inclusion of **peer review processes** in research work undertaken with government.

We heard that individuals in both university and public sector settings identify the need for and take on network building activities and knowledge translation and transfer in addition to their regular duties, often with limited tangible incentives to do so. This situation may contribute to inconsistent, potentially ineffectual approaches and key person risk. When incentives do exist, they tend to prioritise the needs and perspectives of practitioners. Imbalanced expectations and incentives may be a barrier to successful knowledge brokering, as they risk transactional and even hostile relationships among parties.

There is a role for knowledge brokering activities that advocate and steward the introduction of bureaucratic-level incentives and supports. Efforts should prioritise mutual accountability and arrangements that benefit the needs and perspectives of researchers and practitioners alike. This

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[12] There are precedents for professional learning, templates and other tools, including those developed by the Open Innovation Team (Ford and Mason, 2018) and New Zealand Office of the Prime Minister's Chief Science Advisor's work with the Riddet Institute (Office of the Prime Minister's Chief Science Advisor, The Riddet Institute and McKerchar, 2023).

[13] A useful model is the UK Governments' Areas of Research Interest (ARI), which provides publicly available information about departments' research and evaluation needs and guidance on how to operationalise ARI for research-practice collaboration (Government Office for Science and Cabinet Office, 2023).

[14] The Australian Government has proposed a revitalised National Science and Research Priorities and National Science Statement. This is an important step towards aligning research evidence, activities and capabilities with policy development and decision-making (Department of Industry, Science and Resources, 2023).

[15] The APS Academy, which identifies Strategy, Policy & Evaluation among the APS Craft, is a useful foundation for this (APS Academy, 2024). However, the current modules dedicated to research, evidence and evaluation literacy are limited.

approach not only promotes fairness, it may also work to legitimise and embed new ways of working in both universities and the public sector.

Incorporating peer review processes, intellectual property and publication rights for researchers is particularly valuable; such measures help work with government better map onto the incentives and quality standards of higher education. The research approach of the Australian Housing and Urban Research Institute (AHURI) is an exemplar, employing a double-blind peer-review process to assess both the quality of the research and policy relevance (AHURI, 2022).

Planning and processes

Building and sustaining relationships is foundational to effective knowledge brokering. While established networks and relatively ad hoc outreach activities can help secure knowledge brokering opportunities and strategic insights, when it comes to successfully managing research-practice collaborations, more deliberative and formal planning and processes are key. These processes work to establish expectations around purpose, timelines and deliverables, helping all parties to be clear on direction and building confidence that objectives will be met. Planning and processes are particularly effective when supported by formal arrangements, including commitments to reporting milestones and risk-sharing mechanisms. The formality of planning also promotes the legitimacy of research-practice collaborations and evidence use in practice.

Planning and processes are supported by collaboration, ensuring that all perspectives are incorporated into research design, delivery and implementation. Sustained two-way dialogue is particularly important in this regard, providing opportunities to discuss progress, share early findings, consider implications for implementation, and evaluation of knowledge brokering.

Here there is a distinct role for knowledge brokers as proactive project managers who guide the implementation of research projects and facilitate the work of partnerships. This might involve:

- Use a **protocol agreement for governance processes and roles**. This could be developed with the joint input of practitioners and researchers to ensure mutually practical ways for research to meet the needs of practitioners, including clarifying respective constraints and timing, research needs, confidentiality, and intellectual property.
- Arranging a **schedule for regular contact**, such as meetings of steering-committees and advisory bodies.
- **Charing steering-committees and advisory bodies** to lead the work of planning for, monitoring, and delivering a project.
- Establish **reporting milestones** and work with researchers to **communicate early findings**.

Planning and process considerations also extend to impact and evaluation. This research reaffirms that knowledge brokering processes and outcomes are difficult to define and quantify, and there is no single approach to evaluation. However, this does not mean that knowledge brokers should simply abandon efforts to do so. Rather, a good practice approach to impact and evaluation is one that is transparent and tailored to the public sector and/or policy domain, activities, and objectives of the knowledge broker. Ideally, planning for impact and evaluation should be a formal phase that occurs early on in all brokering initiatives.

Our analysis suggests that planning for impact and evaluation may be useful when done in collaboration with stakeholders. Collaboration can support a tailored approach to impact and evaluation that incorporates the needs and priorities of stakeholders alongside the discrete strategy and objectives of an individual brokering entity. Moreover, by bringing stakeholders into the evaluation process, transparency is increased; this makes knowledge brokering processes more accessible to stakeholders and builds trust in the outcomes reportedly achieved.

A formal, tailored and transparent approach to impact and evaluation can help knowledge brokers demonstrate the relative benefit of their contributions and promote an internal culture of continuous improvement.

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Appendices

Table 1: Interview questions

The function and practices of knowledge brokering
- How would you describe your role/the role of your organisation? Why is a need for this role?   - How do you identify and respond to the need within government for independent, relevant, accessible research evidence?   - How do you determine what knowledge is most useful for the public sector?
Managing research-practice relationships
- What is involved in establishing the legitimacy and trust necessary for you to bridge the research-practice gap?   - What tools and processes help facilitate knowledge exchange?   - How do you navigate contractor-supplier relationships and inherent expectations?   - Is there a role for funding models or mandates to cultivate trust and credibility?
The evidence ecosystem and public sector reform
- What are the unique considerations when producing and communicating research evidence for use within government?   - Is there an ideal balance between the supply of research and the capacity within government to commission, understand and use research?
The impact and effectiveness of knowledge brokering interventions
- Can you tell me about a time when a knowledge brokering intervention wasn't successful? What factors contributed to this?   - Can you tell me about a successful knowledge brokering intervention? How did you know that a project was a success? How were outputs used in practice?   - Are there meaningful ways to plan, measure and evaluate the impact and effectiveness of a program? If yes, can this be generalised/replicated?

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Table 2: Interview participants

Entity subgroup and cohort: Intermediary participant (IP); University-based participant (UBP); Government-based participant (GBP)	Entity type, funding model, etc.
New Zealand (NZ) entities	
NZUBP1	Research institute
NZIP1	Independent for-profit organisaiton, membership-based options
NZIP2	Independent for-profit organisaiton, membership-based options
NZIP3	Independent not-for-profit (NFP)
NZGBP1	Research centre within a central government line agency
NZGBP2	Research centre within a central government line agency
NZGBP3	Research centre within a central government line agency
NZGBP4	Departmental agency in a central government line agency
NZGBP5	Statutory crown entity
NZGBP6	Research unit within a central government line agency
Australian (A) entities	
AUBP1	University-federal government joint venture

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AUBP2	Research institute
AUBP3	Research institute
AUBP4	Research institute
AUBP5	Cross-university research institute
AIP1	Independent for-profit organisation
AIP2	Sole trader
AIP3	Independent membership-based NFP
AIP4	Independent membership-based think tank
AGBP1	Office hosted in a federal government central agency
AGBP2	Research centre in a state line agency
AGBP3	Research centre in a state line agency
AGBP4	Ministerial-owned organisation
AGBP5	Office hosted in a federal government central agency

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