



Mapping Public Sector Innovation Units in Australia and New Zealand

2018 Survey Report



The
Policy
Lab



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EXECUTIVE SUMMARY

Public sector innovation (PSI) units are increasingly being established and commissioned by governments to bring new insights and approaches to policy design and the delivery of public services. According to previous estimates, worldwide, there are approximately 100 such units based within governments alone while new units are being created at ‘a rate of at least one a month’ (Price 2015). This report, based on a survey of PSI units in Australia and New Zealand undertaken in February 2018, suggests that the actual number of PSI units worldwide may be significantly higher than previously thought. Although we surveyed PSI units based both within and outside of government, we identified at least 26 PSI units based in various levels of government in Australia and New Zealand alone. There are a similar number of non-government units and mixed-organisation types regularly undertaking public sector innovation work with, or on behalf of, governments in Australia and New Zealand. This includes organisations such as The Australian Centre for Social Innovation (TACSI) and the Behavioural Insights Teams, many of which collaborative extensively with state governments. And this is only counting the PSI units that responded to the invitation to participate in the survey.

All this suggests a vibrant public sector innovation landscape is emerging in Australia and New Zealand. This is reflected in how recently many of the PSI units surveyed were established:

- Six of the government-based PSI units have been operating for 12-months or less

- Over half were established within the past two years.

While we found several examples of very large PSI units in Australia—including some with more than a hundred staff—the survey results overall highlight the extent to which PSI units in Australia and New Zealand are very small organisations:

- About half of PSI units employ five staff or fewer
- 12 of the PSI units employ at most two people.

As a result, PSI units may have to frequently draw in external expertise or second staff from other agencies and departments to carry out work. This is implied by the extent to which we found PSI units in Australia—both within and outside of government—were utilising consultants and/or consultants:

- In the six months prior to the survey, government-based PSI units each hired just under four consultants or contractors on average while units based outside government (independent PSI units) hired over six consultants or contractors on average to carry out work on their behalf
- Government-based PSI units seconded an average of just under three staff from other government agencies and departments in the six months prior to the survey
- More consultants/contractors than employees carried out work for independent PSI units in the six months prior to the survey, suggesting that there may be a supply chain of public sector

innovation in Australia and New Zealand whereby governments commission independent PSI units who, in turn, further subcontract work.

The relationship of PSI units to governments in Australia and New Zealand is highly varied, although the survey results suggest that most units can be classified as either government-controlled PSI units (based within and funded by government) or government-enabled units (non-government units that rely extensively on government funding). Unlike some prominent international examples such as the UK Government's Policy Lab, very few (if any) government-based PSI units in Australia and New Zealand appear to charge out their services despite regularly undertaking work for other agencies and departments:

- Most of the government-PSI units surveyed were funded by the national or federal government, and based within a parent department or agency
- Only two were co-owned by multiple agencies or departments, and both of these were NZ-based PSI units
- 10 of the Australian PSI units surveyed were based within a state government department or agency
- The survey results also indicate that independent PSI units regularly carry out work for state government departments and agencies.

The skills-sets, qualifications and capabilities of people working within PSI units in Australia and New Zealand are very diverse:

- Qualifications in 'Sociology or social work' and 'Management and business administration' are the most common,
- Many PSI units are staffed by people with formal qualifications in design disciplines

such as 'Graphic design' and 'Service or user experience design'

- Government-based PSI units tend to recruit primarily from within the public sector
- While these PSI units tend to recruit at least some staff from outside government, including community-sector organisations and design agencies, only about a third report recruiting 'many' of their staff from outside government.

Similarly, the range of policy sectors and public service delivery areas that PSI units work across is wide:

- More than half of PSI units undertake work in the area of 'Social issues, housing and welfare'
- 'Public administration and governance', 'Education', 'Health', and 'Indigenous and Maori issues' are other prominent policy sectors that many PSI units work on
- 16 PSI units in Australia and New Zealand work on 'Transport' policy
- 12 PSI units undertake work on 'Policing, crime, and the justice system', including eight government-based PSI units.

Within these policy sectors, we have identified three distinct domains of innovation that PSI units are involved in:

1. *Policy development and reform*: involving identifying or scoping problems, consulting with stakeholders, scaling and spreading new approaches, supporting and developing partnerships, developing policy proposals and reforms, and working on systemic change;
2. *Evaluation and systems improvement*: based around evaluating programs/trials/pilots, incorporating technology into public administration,

organisational change management, and business systems or process improvement; and

3. *User and customer-experience*: understanding users' experiences, generating ideas, piloting/prototyping solutions, and service or customer experience (re)design.

Many PSI units undertake work in all three domains of innovation, although activities in the domains of *User and customer-experience* and *Policy development and reform* appear to be the predominant focus of PSI units, with individual PSI units appearing to frequently undertake activities in both these domains.

They also bring a variety of methodological frameworks and approaches to the work that they are undertaking in these domains and policy areas, but especially a suite of methods associated with Human-Centred Design. This underlines how the spread of PSI labs internationally has been associated with growing interest in the application of 'design thinking' to policy. This relationship between the emergence of PSI units and 'design thinking' approaches to policy and public sector reform is largely confirmed by the survey results on the methods that PSI units are using in Australia

and New Zealand, which converge around three main frameworks:

1. A *Human-Centred Design* framework: this is associated with the use of 'interviews and/or empathy conversations'; 'focus groups'; 'ethnographic methods'; 'citizen/stakeholder engagement through workshops, walkthroughs, and other collaborative approaches'; 'user testing/prototyping'; and 'systems thinking or mapping';
2. An *Evidence-based* framework: this is associated with the use of 'RCTs'; 'Behavioural Insights'; 'Survey research'; 'Research/evidence reviews'; and the 'Analysis of existing (big) data sets'; and
3. An *Agile methods* framework: this is associated with the use of 'design sprints'; 'agile or lean project management'; and 'challenge prizes, awards, and open innovation programs'.

Of these three, HCD was the methodological framework most frequently employed by the PSI units surveyed, and was associated with PSI units undertaking activities in the domains of *Policy development and reform* and *User and customer experience*.

INTRODUCTION

The number of public sector innovation (PSI) units – sometimes also referred to as government innovation labs or i-teams - has spread rapidly in recent years, both internationally as well as in Australia and New Zealand. Prominent international examples include the Danish Government’s MindLab, and the UK Policy Lab. MindLab is a cross-departmental innovation unit, jointly owned by the Danish Ministries of Industry, Employment, and Education, while Policy Lab is formally located within the Cabinet Office of the UK Government although it works across the whole public service.

PSI units thus have varying relationships to government and differences in their relative proximity to executive decision-making. This is what Geoff Mulgan (2014) describes as the ‘radical’s dilemma’: working at a distance may enable PSI units to develop more frame-breaking alternatives to the status quo but at the risk of being ignored and marginalised; while working more centrally within government may enable units to more directly influence policymaking but at the risk of being co-opted and shifted from radical to incremental change.

Importantly, not all PSI units are based within government. Many operate instead as independent organisations that work with—and for—governments on a commissioned basis to support agencies and departments looking to innovate in policy design or public service delivery. This includes some of the most frequently cited examples of PSI units, such as Nesta’s Innovation Lab and The Australian Centre for Social Innovation (TACSI) (see, for example, Puttick et al. 2014; Selloni and Staszowski 2013).

The reasons why governments are turning to these ‘islands of experimentation’ (Tönurist et al. 2017) are varied. Some commentators argue that the proliferation of PSI units reflects a heightened emphasis *on evidence-based policymaking* by government departments and public agencies.

Others have associated PSI units with the pursuit of ‘open government’ agendas and initiatives to promote transparency, accountability, and the empowerment of citizens through new technology and data sharing platforms (Gryszkiewicz et al. 2016, 7). This seems to be a particularly important focus of the work of PSI units in Latin American and Caribbean countries (Acevedo and Dassen 2016). Many others identify the spread of PSI units with the recent upsurge in interest in co-design and the application of various ‘design thinking’ practices to public policy (Bailey and Lloyd 2016; Bason 2013; Fuller and Lochard 2016; Mintrom and Luetjens 2016).

On occasion, commentators have indeed defined PSI units by their emphasis on using innovative design methods to ‘reform and change the way government operates’ (Bason and Schneider 2014, 35) and ‘involve all stakeholders in the design process’ (Fuller and Lochard 2016, 1). This reflects the view among many practitioners and commentators that the previous ways in which governments have sought to design and implement policies are no longer suited to the complexity of today’s policy and social challenges (Kimbell 2016); that the systemic nature of policy challenges in areas such as health, social services, employment and education (among others) leaves governments with little choice ‘but to innovate’ (Puttick 2014, 20)—principally through embracing a more ‘experiment-oriented’ (Fuller and Lochard

2016, 14) approach that, in turn, requires drawing on capabilities and skills-sets usually not available in the public sector (Carstensen and Bason 2012, 5).

While the age of the innovation lab has arrived, little is known about what these labs do, how they differ from other public sector change agents and policy actors, and what range of approaches they are bringing to contemporary policy challenges (McGann et al 2018). Further, although several international mapping reports and practice guides on PSI units have been produced within the past five years, the emerging landscape of PSI units in Australia and New Zealand has yet to fully documented or mapped. Interested parties had been wondering:

- How many PSI units are now operating in Australia and New Zealand?
- How recently have they been established and what are the key challenges they face to their operation and survival?
- What are the key levels of government and policy areas that they are working within?
- What are the distinct capabilities and approaches that these units are drawing on and bringing to innovation in public service delivery and policy design?

To address these questions about the emergence of PSI units in Australia and New Zealand (NZ), The Policy Lab at the University of Melbourne undertook an exploratory survey of the sector in early 2018. The survey was

supported by a grant from The Australia and New Zealand School of Government, and feeds into wider ongoing research that The Policy Lab is carrying out on the sector throughout 2018. This includes detailed case studies of five PSI units to further explore their collaborative governance arrangements and the challenges and opportunities they experience in contributing to policy innovation and reform at different jurisdictional levels. Further details about this ongoing work are available on the project web page:

<http://go.unimelb.edu.au/ix86>.

ABOUT THE SURVEY

The survey was carried out online from 29 January to 25 February 2018. For the purposes of the survey, PSI units were defined as any unit or team that was *'established for the purposes of supporting public or social innovation'* including both 'units within government, or the public sector, as well as non-government organisations and labs that work with governments on public sector innovation.'

The question of how to define PSI units is a contentious issue due to the multiplicity of organisations that feature in discussions of the emergence of innovation units and labs, and their heterogenous nature (McGann et al. 2018; Tönurist et al. 2017). For this reason, and reflecting the exploratory nature of the survey, we opted for a definition that enabled us to include or exclude potential participants based upon whether they self-identified as being established to support public sector innovation. Subsequent questions probed participants about the extent to which they are funded by governments and undertake projects for government departments and public agencies at various levels. The answers that participants gave to these questions indicated that the non-government units and teams that responded to the survey nonetheless regularly worked for, and with, government partners on public service and policy design innovation projects.

As the total number of PSI units operating in Australia and New Zealand is unknown, we adopted a multifaceted and snowball sampling approach to recruiting potential participants.

This involved directly approaching PSI units within and outside of government that we were already aware of to participate in the survey, publicising the survey via The Policy Lab's website, social media and mailing list, and via contacts within government and the wider public sector. For example, an email about the survey was circulated to 'Heads of Labs' within the Australian Public Service via the Public Sector Innovation Network (PSIN), which is managed by BizLab within the Department of Industry, Innovation, and Science. The PSIN also included an article about the survey in its weekly email circular, 'Bits of News', which goes out to more than 3,600 subscribers, including people working within Local and State Government and non-government organisations who are interested in public sector innovation.

Additionally, the survey was promoted to members of the Australia and New Zealand School of Government – which includes public servants working within the New Zealand Government, the Australian Government, and all State governments in Australia – and via Twitter using the hashtag #psilabs. This is recognised as a commonly followed hashtag by practitioners within the field of public sector innovation, particularly among those involved in innovation units and teams (Williamson 2015). Finally, individual survey participants were asked to nominate other PSI units or teams that they were aware of who might wish to take part.

A total of 52 PSI units and teams took part in the survey, once duplicate and unusable responses had been removed from the data file. This included 13 responses from NZ-based units and 39 responses from PSI units and teams based in Australia. As Table 1 shows, 26 out of the 52 units and teams that responded to the survey were based within government – albeit at different levels – while a further 23 units were independent from government in the sense that they had operational independence and were not subject to direct oversight by a government department or agency. Three PSI units were mixed-organisations that operated as a partnership between government and a community-sector or non-profit organisation. In New Zealand, this included the *Tamaki Mental Health and Wellbeing Team*, which is a partnership between the Auckland District Health Board, its primary care partners, and the Tamaki locality. In Australia, this included *Designing Out Crime*, which is a research partnership between the NSW Department of Justice and the University of Technology Sydney; and the *Moreland Civics Lab*, which is an experimental lab for local government issues in which designers, artists and researchers contribute to the work of the

lab in exchange for receiving personal office/studio space from Moreland City Council. A full list of participating units and teams is provided in Appendix A, with 11 out of the 52 respondents indicating that they have offices in multiple locations.

While the survey included both government-based PSI units as well as units operating as non-government organisations – and also units innovating in public *service* design as well as teams working on *policy* innovation – the number of units that responded to the survey suggest that the total number of PSI units worldwide has been substantially underestimated in previous research. For example, it is commonly reported that ‘Worldwide there are over 100 Policy Labs, approximately 65 of these are in Europe’ (Whicher 2017). The term ‘policy lab’, as used in these estimates, is more narrowly defined than how the term ‘PSI unit’ has been used to determine eligibility for participation in this survey. Nevertheless, the survey has identified that there are at least 26 government-based PSI units in Australia and New Zealand alone—units that closely resemble the government innovation and policy labs featured in international reports.

Table 1: Profile of Participants

	Based within govt	Independent from govt	Mixed organisations	Total
New Zealand	5	7	1	13
ACT	10	2		12
NSW	4	5	1	10
QLD	1			1
SA	1	2		3
VIC	4	6	1	11
WA	1	1		2
Total	26	23	3	52

ORGANISATIONAL SIZE AND HISTORY

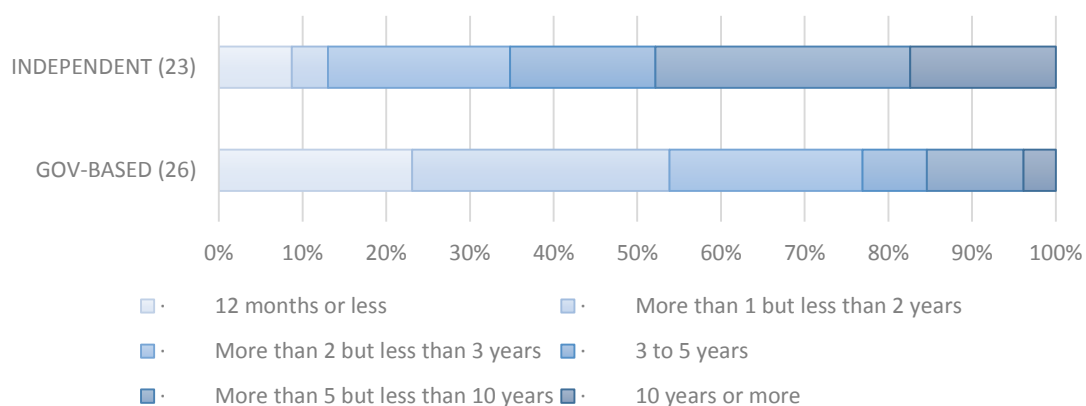
Previous studies have characterised PSI units as ‘islands of experimentation’ (Schuurman and Tönurist 2017, 9) within the public sector, emphasising their fluid structure, relatively short life span, and small size in comparison to other public sector organisations (Tönurist et al. 2017). This is reflected in our survey findings, as reported in Figure 1. Almost a quarter of the PSI units based within government (6 out of 26) have been in existence for 12 months or less, and three quarters (20 out of the 26) have been established within the past three years.

By comparison, the non-government or independent PSI units tend to have a more established organisational history with almost two thirds (15 out of 23) indicating that they had been operating in their present form for three years or more. When asked about how the decision to establish their unit or team came about, the overwhelming majority of government-based PSI units (70.8%) reported that it was ‘an initiative of the head or chief executive officer of a government/council department or agency.’

Only four PSI units reported that their establishment was an initiative of an elected official or member of government. This suggests that the emergence of PSI units within government in Australia and New Zealand is being driven by public managers and administrators, rather than by politicians or elected officials seeking to promote a policy agenda of government innovation and public sector reform. This marks one way in which the recent proliferation of PSI units can be distinguished from earlier public reform agendas and discourses, such as the ‘government reinvention’ labs that were established in hundreds of US Government departments and agencies in the early to mid-1990s under the direction of the Clinton administration (Thompson and Ingraham 1996).

The results reported in Figures 2 and 3 show that PSI units—both within and outside of government—are overwhelmingly very small organisations in terms of the number of staff they employ. Although seven PSI units reported employing more than 20 staff, approximately half of the units surveyed directly employed five staff or fewer.

Figure 1: How long have labs existed?



Indeed, almost a quarter employed considerably fewer staff than this with one in five government-based units reporting employing no more than two direct employees and one in four independent units reporting the same.

The small size of PSI units suggests that they may rely heavily on either working with external consultants or seconding staff from (other) departments and agencies when carrying out projects. However, we found that few PSI units relied on seconding staff from government departments and agencies. Only 10 of the government-based PSI units surveyed reported having seconded ANY staff to work with them within the previous six months. And although the mean number of seconded staff reported by government-based PSI units was 2.9 people, the magnitude of this number was largely accounted for by two PSI units who each reported seconding a total of 30 or more staff from other government departments and agencies (the Project Office within Policy Innovation and Projects Division of the Australian Government's Department of Prime Minister and Cabinet, and the Service Innovation Lab within the New Zealand Government's Department of Internal Affairs).

PSI units reported being even less likely to place their own staff into government departments and agencies to work on projects, with only six government-based PSI units reporting having seconded their own staff to work within another department or agency within the previous six months. The comparatively high mean number of staff that independent PSI units reported seconding to government agencies (5.4 staff) can be partly explained by the fact that one international design agency with multiple offices in Australia and New

Zealand had seconded 70 of its staff to government departments and public-sector agencies. In contrast to seconded staff, the survey results indicate that PSI units make frequent use of consultants and that this is a consistent pattern across units based within and outside of government. For example, across government-based PSI units the ratio of consultants (used within the previous six months) to employees was just under half (i.e. units had commissioned one consultant for nearly every two of their direct employees) while among independent PSI units it was higher still (1.6 consultants per direct employee).

Lab Example 1: Co-design and Innovation Lab

Based within Tauranga City Council, New Zealand.

Established within the past two years.

Employs three staff members.

Additionally engaged four consultants as well as seconding four additional staff from other agencies and departments to work on projects within the previous six months.

Lab Example 2: BizLab

Based within the Australian Government's Department for Industry, Innovation and Science.

Established within the past two years.

Employs 15 staff members.

Within the six months prior to the survey, this was also supplemented by three interns and two staff members seconded from other government agencies and departments.

One of the few (6 in total) government-based PSI units that reported seconding its own staff (3 staff members) to another agency or department to undertake project work.

Figure 2: How PSI units are staffed (Government-based units)

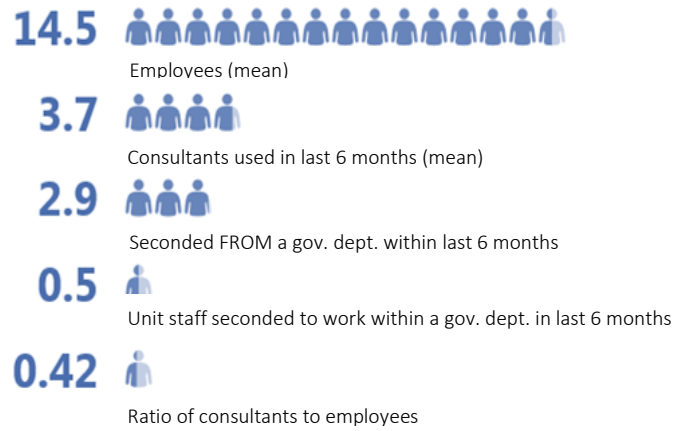
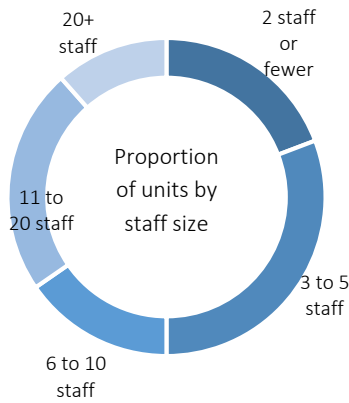


Figure 3: How PSI units are staffed (Independent units)

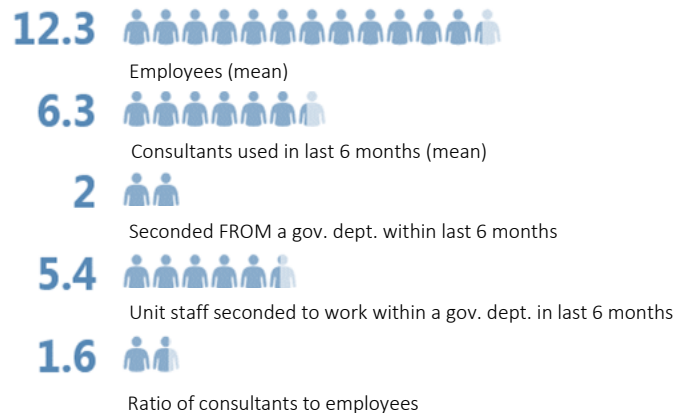
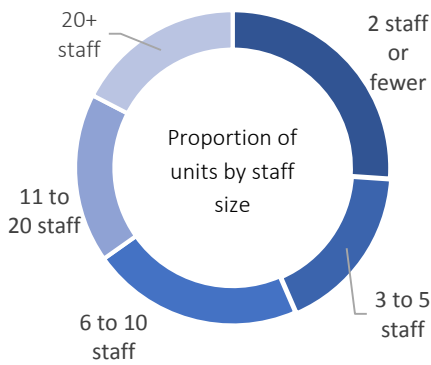
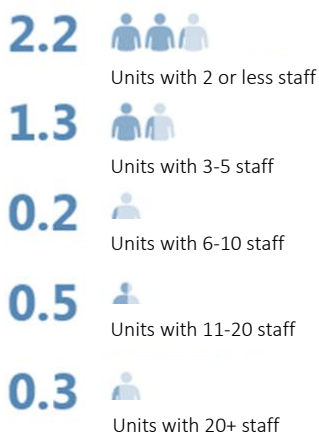


Figure 4: Ratio of consultants to employees by organisation size



The reliance of PSI units on engaging external consultants may necessitate from the small number of staff they directly employ. Although units with a higher number of direct employees generally reported commissioning more consultants and contractors than units with fewer direct employees, smaller PSI units nevertheless reported engaging a considerable number of consultants in comparison to their organisational size. This is illustrated by the high ratio of consultants to direct employees among PSI units with small numbers of employees, reported in Figure 4 above.

Lab example 3: ThinkPlace

An international strategic design consultancy firm that has been operating for over 10 years.

It has offices in Canberra, Sydney, Melbourne, Wellington, and Auckland, and employs approximately 80 staff.

Within the six months prior to the survey, it had seconded 70 of its staff to working within government departments and agencies.

Conversely, it rarely utilises consultants or staff seconded from elsewhere, only engaging four consultants and one staff member from a government department or agency to work on projects

Lab example 4: Co-Design Studio

A design consultancy firm head-quartered in Melbourne with a sister office in Brisbane.

It has been operating for over five years, employing 12 staff members.

This is supplemented by a mix of interns and contracted consultants, with Co-Design Studio engaging 10 consultants and employing 10 interns in the six months prior to the survey.

Example 5: Smart City Office

Based within the City of Melbourne.

Established within the past three years.

Employs a total of 40 direct staff. Within the six months prior to the survey, this was supplemented by the engagement of 10 consultants.

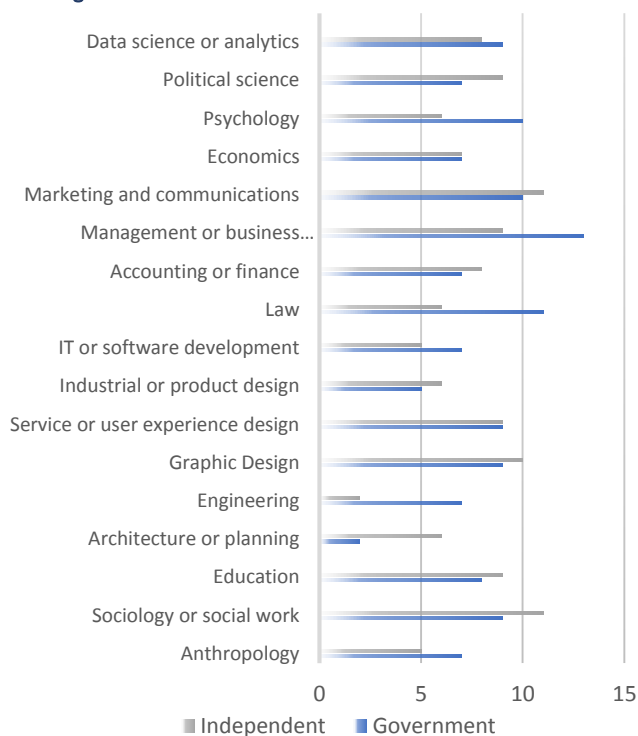
BACKGROUND AND SKILL-SET OF STAFF

Globally, the spread of PSI units has been heralded as part of a movement ‘that is bringing knowledge and practices developed in other fields into the heart of the public service’ (Puttick et al. 2014, 5). This is thought to be especially true of PSI units that are committed to applying ‘design thinking’ to policymaking (Bason 2013; Mintrom and Luetjens 2016). But to what extent is this true of PSI units that are operating *in Australia and New Zealand*? We sought to address this question by surveying units about the formal qualifications held by their staff, and the sectors from which they have recruited staff — for example, whether their employees have considerable private sector experience, or have previously worked in design agencies or in academia or other research organisations.

The findings reported in Figure 5 show that PSI units employ staff with very diverse skill-sets. ‘Sociology or social work’ was the discipline most frequently identified by PSI units overall in terms of the formal qualifications held by their staff, with 20 PSI units in total reporting that they had staff with such qualifications. This likely also reflects the types of policy issues that PSI units work in (See Figure 18), with ‘Social Issues, Welfare and Housing’ the main policy area that PSI units report working on by some distance. Among government-based PSI units, the most frequently reported qualification held by staff was in ‘Management or business administration’ (13 out of 22 government-based PSI units that responded to this question) followed by ‘Law’ (11 PSI units). Only nine government-based PSI units reporting having staff with formal qualifications in ‘Sociology or social work’. Following business and legal qualifications, ‘Psychology’ was the next most commonly reported discipline by

government-based PSI units. This reflects the participation of several behavioural insights units in the survey, although it is surprising that comparatively few (less than one in three) PSI units reported having staff with formal qualifications in economics – another discipline that is strongly associated with drawing on behavioural insights for policy. What Figure 5 also illustrates is the high proportion of PSI units employing people with formal qualifications in design disciplines such as ‘graphic design’ and ‘service or user experience design’ (18 PSI units in total reported employing staff with these qualifications). This is the case across both government-based and independent PSI units, although it is especially true of the latter with just under half (47.6%) of independent PSI units indicating that their staff held formal qualifications in graphic design.

Figure 5: Skill sets of staff in PSI units



The ‘design’ background of PSI unit staff is further reflected in the proportion of units who report that either ‘some’ or ‘many or almost all’ of their staff worked in a design agency prior to joining their unit or team. As Figure 7 shows, almost 70 per cent of independent PSI units (13 out of the 19 units responding to this question) reported that some, many or almost all their staff had prior experience working in a design agency. This compared with only eight government-based PSI units that reporting having recruited some or many staff from design agencies (See Fig. 6). Rather, government-based PSI units appear to be heavily reliant on recruiting people already *within* the public sector, with 18 government-based PSI units reporting that ‘many or almost all’ their staff previously worked in the public sector, and a further five reporting that ‘some of their staff’ previously worked in the public sector before joining their unit or team.

When government-based PSI units do recruit from outside the public sector, it appears that they are marginally more likely to do so from non-profit organisations rather than commercial enterprises. What is noticeable across both government-based and independent PSI units is the proportion of units (over a third) that have recruited staff from either an overseas or domestically-based PSI unit.

Staffing issues, and the capabilities and skill-sets of personnel emerged as important operational challenges that the PSI units surveyed reported (See Figs. 8 and 9). For example, half of PSI units overall ‘agreed or strongly agreed’ that the ‘difficulty of attracting highly skilled staff’ was an important challenge they experienced. Among government-based PSI units, 16 PSI units reported that ‘lack of capabilities and skill-sets within the organisation’ was a key challenge they experienced to either their establishment or

ongoing operation. Not surprisingly, ‘risk aversion’ was the most frequently reported challenge identified by government-based PSI units, with 18 government-based units reporting that they had encountered this as an obstacle to their operation or establishment.

Figure 6: Sectors from which Government-based PSI unit staff have been recruited

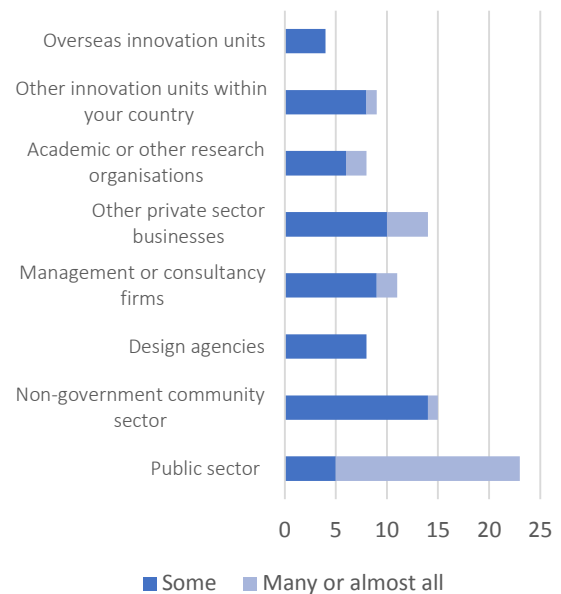
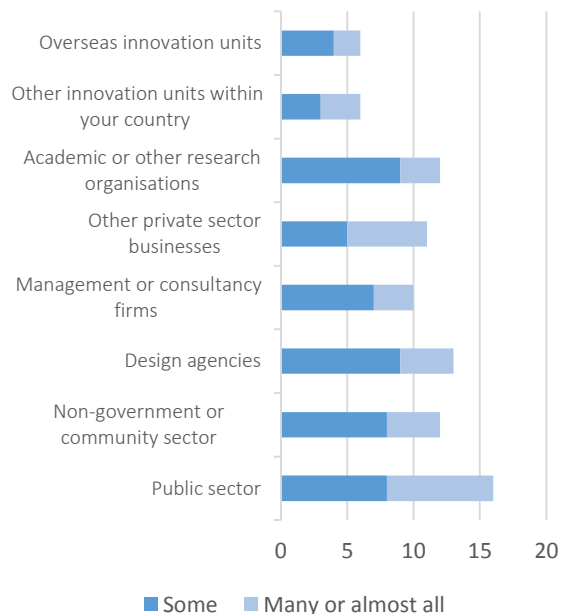
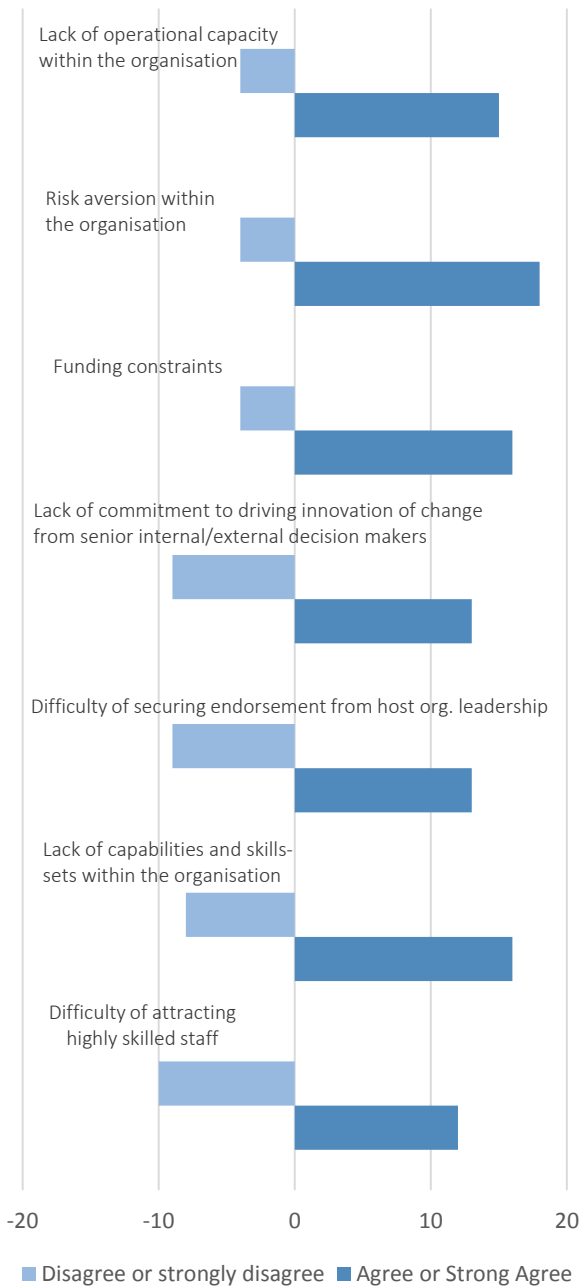


Figure 7: Sectors from which Independent PSI unit staff have been recruited



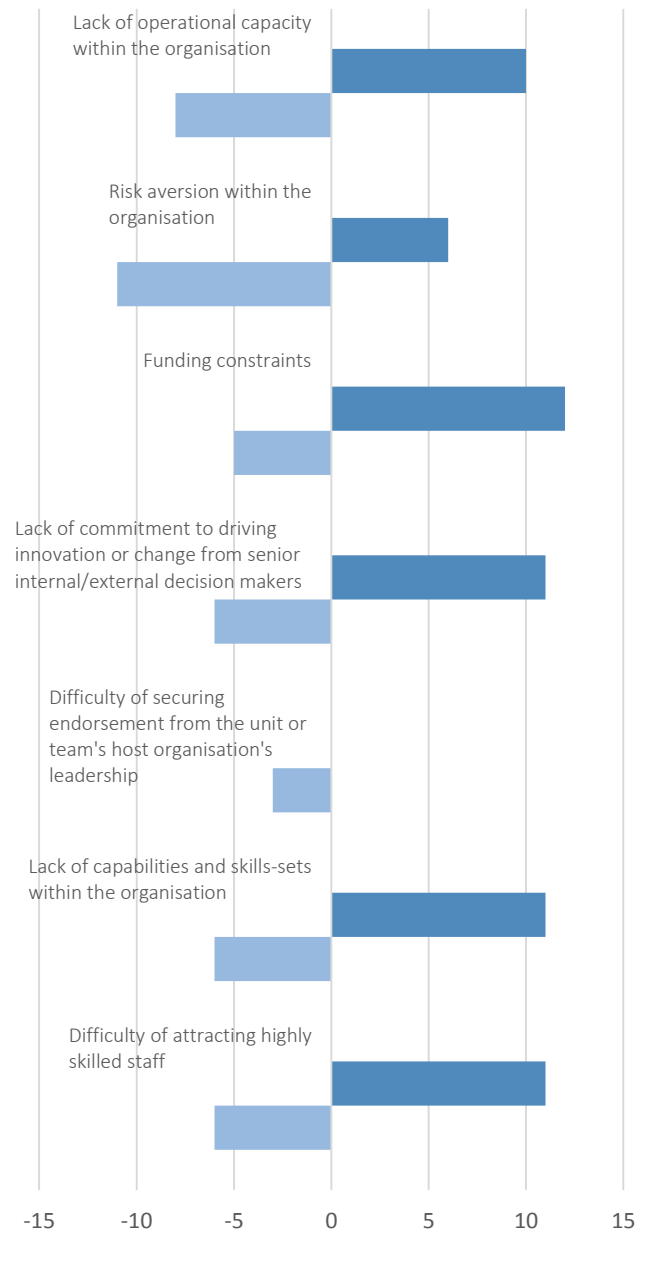
The challenges identified by PSI units in this survey echo long-standing concerns about the capacity for innovation within public sector organisations and whether bureaucratically structured departments and agencies are suited to developing ‘radical new solutions’ to complex social and policy problems (Carstensen and Bason 2012, 3).

Figure 8: Challenges reported by Government-based PSI units



Bureaucracies function to bring ‘predictability and order’ (Puttick et al. 2014, 3) but this can engrain an aversion to risk within their organisational cultures not least of all because of the political accountability and public scrutiny they are subject to (Schuurman and Tönurist 2017, 7). This takes us to a consideration of PSI units’ relationship to government and the executive, which we examine in the next section.

Figure 9: Challenges reported by Independent PSI units



PSI UNITS' RELATIONSHIP TO GOVERNMENT

The units and teams participating in this survey have widely varied relationships to government and the public sector. Although half of the units surveyed could be described as based within government, 23 out of the 52 units that took part in the survey were independent from government in the sense that they were not based within a government department, agency or public sector organisation but operated as independent organisations that partnered with public sector organisations to drive innovation and reform in policy design and public service delivery. Elsewhere we have distinguished four broad organisational forms of PSI units based on the extent to which they are funded, and subject to oversight, by government (McGann et al. 2018):

1. *Government-controlled* units that are based within/owned by a government department(s) or public sector agency and wholly funded by government
2. *Government-led* units that are based within/owned by a government department(s) or public sector agency but only partly funded by government
3. *Government-enabled* units that are based within or operate as a non-government organisation but rely to a significant extent on government funding (mainly through contracts)
4. *Independently-run* units that are based within the private or third sector and which receive no government funding (these types of innovation units are most analogous to think tanks that seek to influence public sector innovation and reform through independent research, advocacy, and the promotion of ideas)

Drawing on how PSI units responded to questions about the extent to which they are funded by government or rely on funding from private

clients and community-sector organisations, we can similarly map PSI units in Australia and New Zealand along these dimensions.

The results reported in Figures 10 and 11 suggest that PSI units in Australia and New Zealand tend to operate predominantly as either *government-controlled units* – i.e. units based within the public sector and wholly-funded by government – or *government-enabled* units – i.e. units located in non-government or for-profit organisations but which rely on government funding. For example, 14 out of the 20 independent PSI units that answered this question estimated that either most of all of their annual budget is derived from ‘contract funding from government clients’. However, six of the PSI units based outside of government reported that they received no contract funding from government clients and so, in this sense, could best be described as entirely *independently-run* units. Only one government-based PSI unit reported receiving *any* funding from non-government sources. What is also evident from the results reported in Figure 10 is that very few government-based PSI units (only four) operate on a fee-for-service model whereby other departments and agencies (within the public sector) engage them to work on projects *on a commissioned basis*. This is reflected in the fact that 17 of the government-based PSI units reported that they were *entirely* funded by ‘direct budget allocation’, which has been described elsewhere as a ‘sponsorship model’ (Whicher 2017, 7) for funding innovation units.

The survey findings clearly suggest that, unlike PSI units internationally such as the UK Policy Lab, only a very small fraction of government-based PSI units in Australia or New Zealand operate on a cost-recovery or commercial model whereby they charge client departments for the work that they do.

Figure 10: How Government-based PSI units are funded

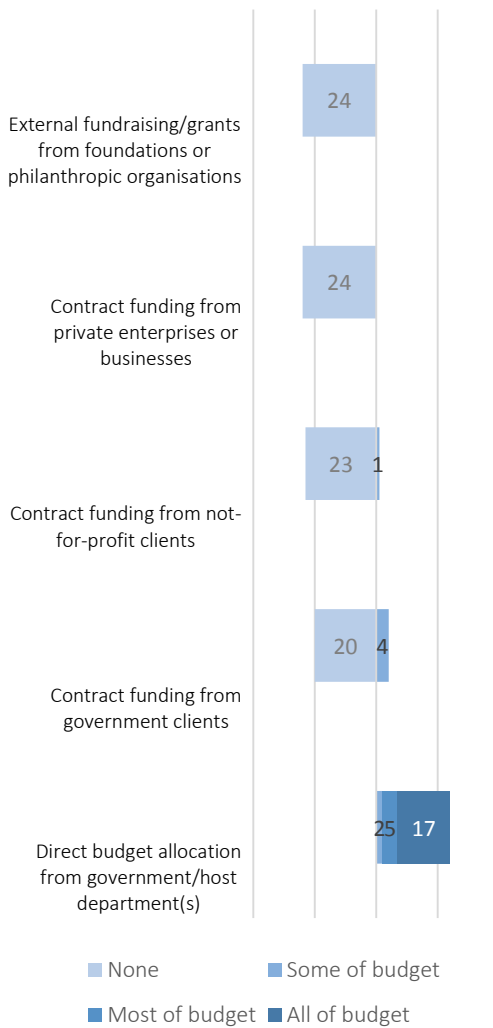
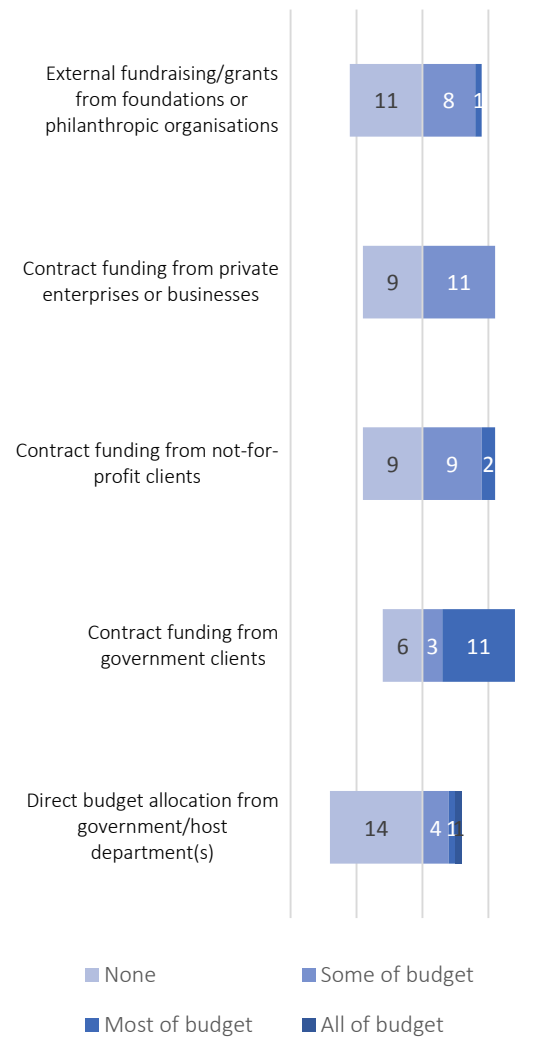


Figure 11: How Independent PSI units are funded

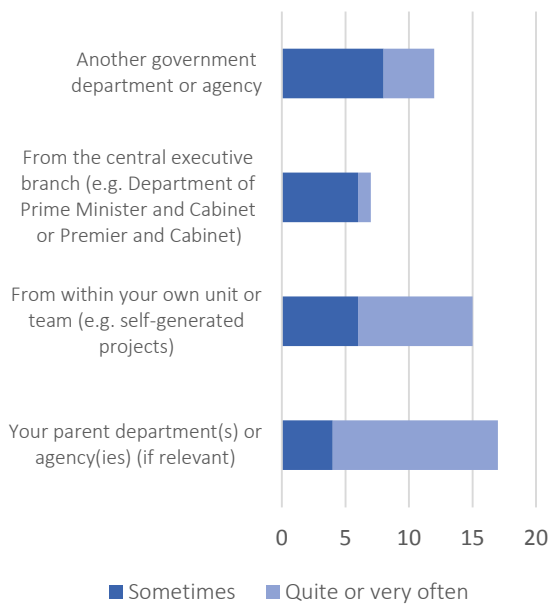


This is somewhat surprising given that, as the data reported in Figure 12 shows, a significant proportion of government-based PSI units are undertaking work *for other* government departments and agencies. PSI units predominantly report that the projects they undertake are either requested by the parent department or agency in which they are based, or are self-generated initiatives of their own unit or team – indicating that PSI units generally have a considerable degree of organisational autonomy (Tönurist et al. 2017, 15). Nevertheless, 12 of the government-based units reported that the projects that they work on sometimes or often originate from another government department or agency.

Focusing on PSI units based within government and the public sector, we next consider the different levels of government that they are located in and the extent to which government-based PSI units in Australia and New Zealand are cross-agency initiatives or nested within single departments and agencies.

As Figure 13 shows, despite the significant number of units that undertake work across departments, 17 of the government-based units surveyed reported that they were owned by, and based within, a single government department or agency.

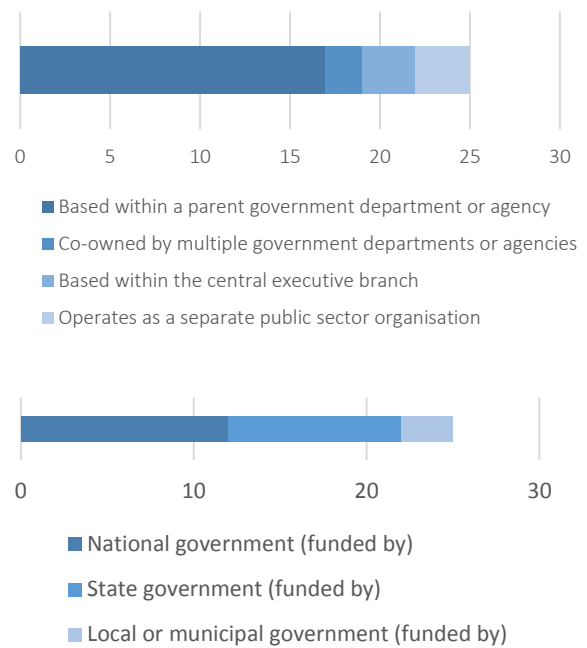
Figure 12: Origin of Government-based PSI units' projects



Only two government-based PSI units reported that they were co-owned by multiple departments or agencies (the MindLab model), and both were New Zealand PSI units. These were: the NZ Government's Service Innovation Lab, which is located within the Department of Internal Affairs but funded by (and works across) multiple government agencies, and the Auckland Co-Design Lab, which is a partnership between Auckland Council and eight different central government agencies. This funding model was unique among the PSI units surveyed, with Auckland Co-Design Lab being the only unit that reported being funded by or accountable to multiple different *levels* of government – in this case central and municipal government.

Figure 14 details the survey findings on how frequently PSI units within government are in contact (excluding email circulars) with staff from other government agencies and departments, as well as the extent to which PSI units based within national government agencies and departments are interacting with people from state and local government and vice versa.

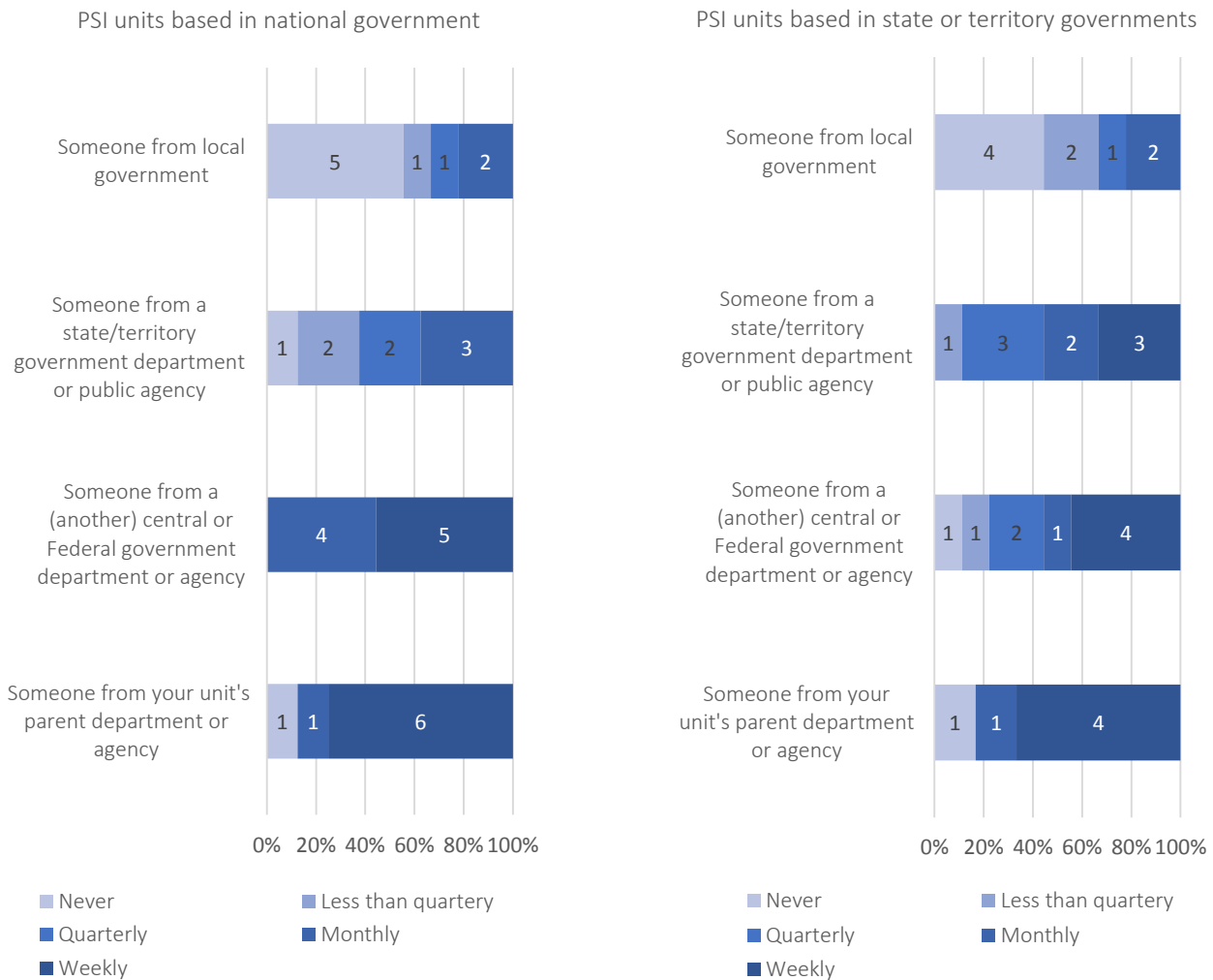
Figure 13: Location of PSI Units within Government



For the purposes of this analysis, we have grouped government-based PSI units into units based within national government and units based within a state or territory government (we have excluded units based within local government, since only 3 PSI units reported being based within local government).

The data suggest that PSI units are very frequently in communication with other government agencies and departments, particularly on a 'weekly' or monthly' basis, although cooperation across different levels of government is less common. In particular, PSI units appear to seldom engage with local government unless they are units directly based within local government. On the other hand, PSI units based within state or territory governments reported frequently engaging with national government, with four state-based PSI units indicating that they are in 'weekly' contact with someone from a central/federal government department or agency. This is in contrast to the lack of weekly communication between units based within national government and people from lower levels of government.

Figure 14: Frequency of contact across agencies and levels of government



Note: only units that are based within either national or state governments are compared, due to the very small number of units (3) based within the local or municipal government.

The survey also asked PSI units to report on the extent to which they are in contact with a range of external stakeholders (including private sector businesses, individual citizens, and community sector organisations) and participating in networks of public sector innovation units nationally and internationally.

The data suggest that networking with other PSI units is high among government-based PSI units, with half reporting that they are in at least 'monthly' communication with a representative from a public sector innovation network or professional association within their own country.

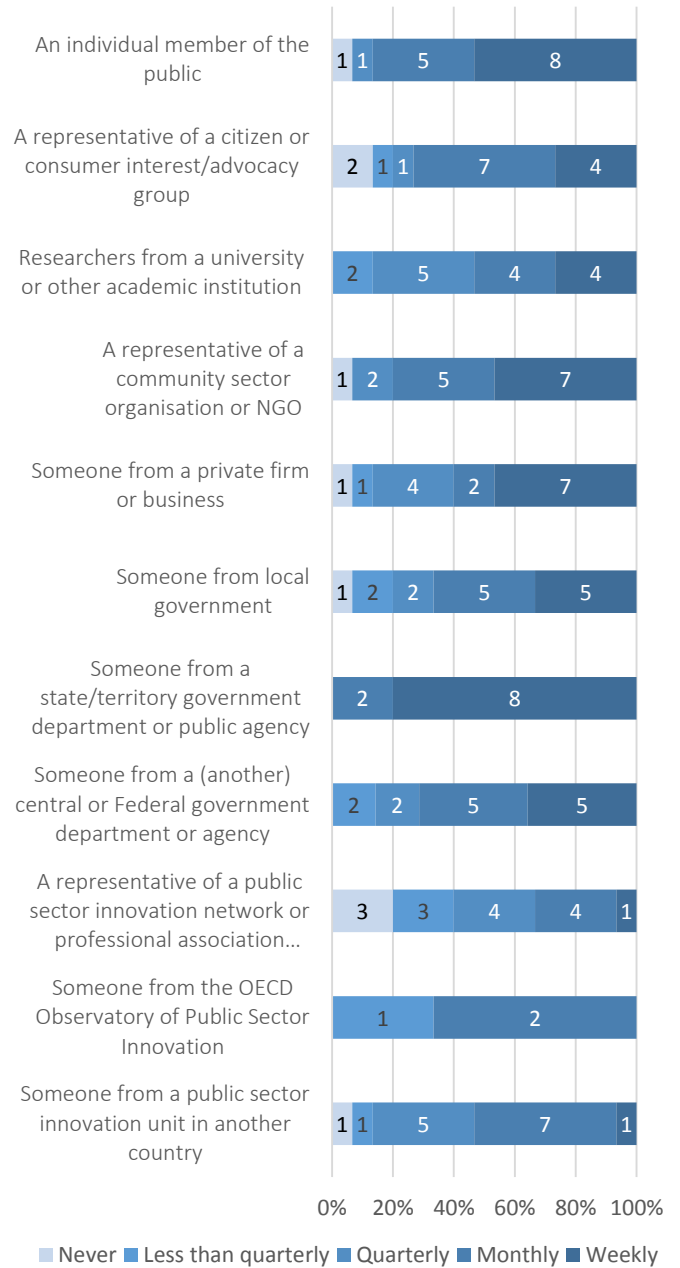
There was also a high-level of 'quarterly' contact with PSI units overseas, further pointing to the strong collaborative linkages between PSI units. What was somewhat surprising, however, was the number of government-based PSI units that reported 'never' communicating with an individual member of the public (6 out of 21), a representative of a citizen or consumer interest/advocacy group (6), or a representative of a community sector organisation. The lack of engagement with citizens and community stakeholders is particularly surprising in light of the very strong emphasis that PSI units seem to place on understanding citizens'/users' experiences, consulting with stakeholders, and service or customer experience (re)design in

terms of how they describe the domains of innovation that they frequently work on (see next section). This raises the question of how PSI units are consulting and engaging with citizens to understand their experiences and co-design new approaches and services with them, if many never actually communicate with individual members of the public or representatives of citizen interest groups.

Figure 15: Networking and frequency of contact outside of government (Government-based PSI units)



Figure 16: Networking and frequency of contact with stakeholders (Independent PSI units)



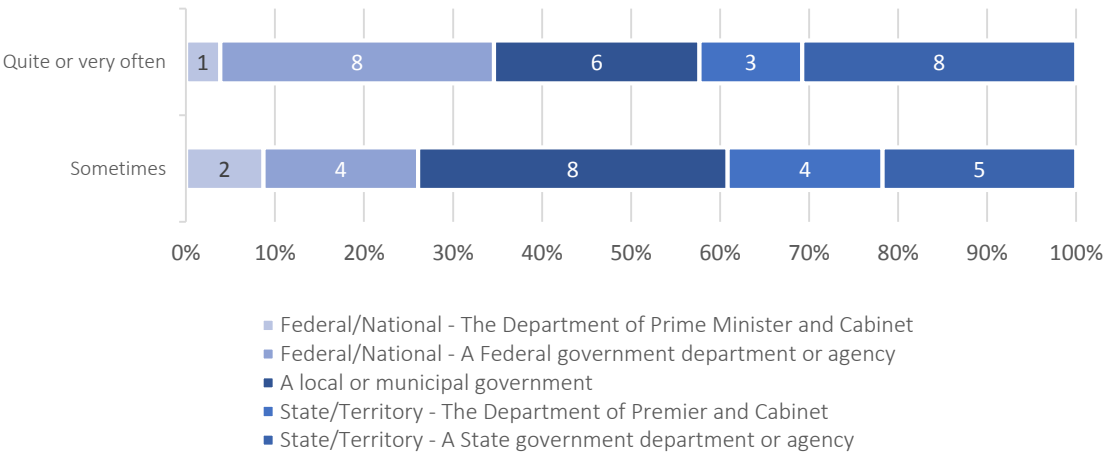
In contrast to government-based PSI units, the independent units surveyed reported engaging with citizens and community interest groups on a very frequent basis. Eight out of 15 independent PSI units reported being in contact with individual members of the public on a ‘weekly’ basis, with a further five units communicating with individual members of the public on a monthly basis. Similar patterns were evident in relation to contact with community sector organisations and

representatives of consumer interest or advocacy groups. What also emerges from the data reported in Figure 16 is the higher frequency of contact that independent PSI units have with people from *state* government departments and agencies compared with people based within departments or agencies of the central or federal government. For example, eight Australian independent PSI units reported being in ‘weekly’ contact with someone from a state or territory government department (this question only applied to Australian based PSI units since this level of government does not apply to New Zealand). This was in comparison to five out of the sample of both Australian and New Zealand independent PSI units that reported being in weekly contact with someone from a central or federal government department or agency. Also, whereas contact between government-based PSI units and local government was rare, 10 independent PSI units reported being in either ‘weekly’ or ‘monthly’ contact with someone from local government.

These findings concerning the level of contact between independent PSI units and different levels of government are further supported by how independent PSI units responded to

questions about which levels of government they had worked for over the previous 12 months. As shown in Figure 17, independent PSI units were more likely to report having worked on projects commissioned by departments or agencies within a state or territory government than to have worked on projects commissioned by an agency or department of the central or federal government. Indeed, eight of the independent units reported that the projects they work on originate ‘quite often’ or ‘very often’ from a state government department or agency, with a further five independent PSI units reporting that they ‘sometimes’ work on projects originating from state government. Although broadly similar numbers of independent PSI units reported frequently working on projects originating from a central or Commonwealth government department or agency, these numbers included the New Zealand based PSI units (which were not asked about their cooperation with agencies and departments at state government level). The data reported in Figure 17 also suggest that independent PSI units almost never work for the Department of Prime Minister and Cabinet, whereas they are more likely to undertake work on behalf of a state Department of Premier and Cabinet.

Figure 17: The different levels of government that are commissioning Independent PSI units



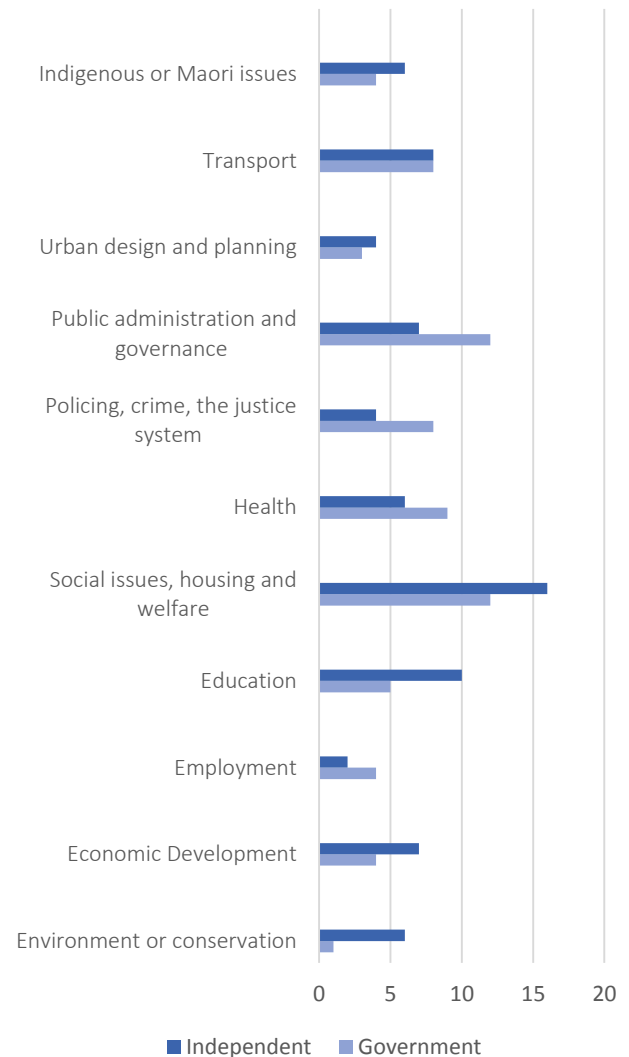
POLICY AREAS AND INNOVATION DOMAINS

Internationally, the rise of PSI units has been framed as a response by governments to the increasingly ‘complex and systemic’ nature of today’s policy and social challenges (Public Policy Forum 2013, 1). As Kieboom (2014, 9) observes of the context in which PSI units have emerged: ‘The latest trend in our quest to fix the global challenges of the 21st century is to “lab” complex issues.’ This raises questions about the principal policy and service delivery areas that PSI units and teams work in, and how they are approaching policy design and public sector innovation within those areas.

PSI units undertaking the survey were asked to nominate the five policy or service delivery areas that they had worked on the most during the previous 12 months. As the data reported in Figure 18 shows, ‘Social issues, housing, and welfare’ was by far the main policy area that PSI units reported working on especially among the independent PSI units, 16 of which had worked in this policy area within the previous 12 months. This was followed by ‘Public administration and governance’, although government-based PSI units reported working equally on both areas. ‘Health’ and ‘Education’ were other key areas of focus for the PSI units that participated in the survey along with, unexpectedly, ‘Transport’ and ‘Policing, crime and the justice system.’ Indeed, one in three government-based PSI units reported that they had worked on ‘Policing, crime, and the justice system’ within the previous 12 months. Six of the PSI units surveyed (all government-based PSI units) reported working only on one policy area or issue. These areas were: transport (1); policing, crime, and the justice system (2); social issues, welfare, and housing (1), and health (2).

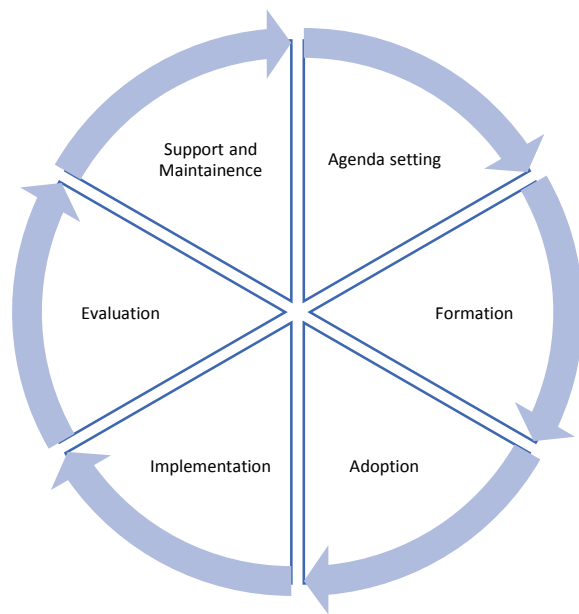
Most of the units surveyed, however, reported working on at least four different policy or public service delivery areas.

Figure 18: Main policy areas that PSI units work on



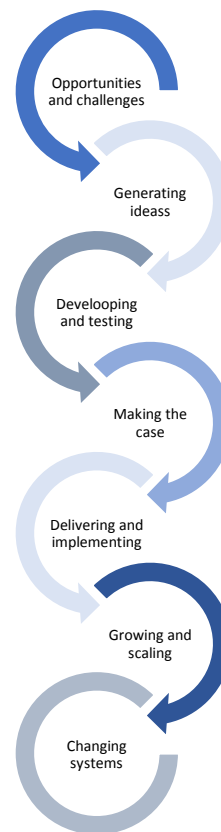
Another way of conceiving of the focus of PSI units’ work is in terms of what might be described as the *domains of innovation* they are involved in. That is, within the policy or service delivery areas that they are working, at what stages of the policy or innovation cycle (Figure 19) are PSI units predominantly operating?

Figure 19: Comparing the Policy and Innovation Cycles



Source: Adapted from (Howlett and Ramesh 1995; Puttick 2014)

PSI units were asked about the different stages of the policy and innovation cycles they predominantly work on and the extent to which they are actively involved in policy development and reform as opposed to innovating on how existing services are delivered within established policy frameworks. Figures 20 and 21 report the survey responses on these items for government-based and independent PSI units respectively. The data suggests that PSI units and teams are very heavily involved at what might be termed the earlier stages of the policy cycle, namely: *identifying/scoping problems; generating ideas; and piloting/prototyping solutions*. For example, over 90 per cent of independent PSI units and well over half of government-based PSI units reported that their unit or team is ‘very frequently’ involved in identifying or scoping problems. Almost all PSI units reported working either ‘quite’ or ‘very frequently’ on ‘generating ideas’, with nearly 85 per cent of independent PSI units reporting that they ‘very frequently’ worked on ‘generating ideas’. Over 60 per cent of the government-based PSI units surveyed, and almost all of the independent PSI units, indicated that they worked



‘very’ or ‘quite’ frequently on piloting/prototyping solutions. Conversely, far fewer units reported that they were involved at the evaluative and scaling end of the policy cycle. For example, the proportion of PSI units who reported that they ‘very frequently’ worked on ‘evaluating programs/trials/pilots’ was just under 30 per cent. The proportion of PSI units who reported that they frequently worked on *policy* development and reform was also low, particularly among government-based PSI units.

Allied with PSI units’ focus on the earlier stages of the policy cycle is their emphasis on stakeholder engagement and exploring citizens’ and users’ experiences of public services and programs. This is reflected in the very high frequency with which PSI units report ‘consulting with stakeholders’ and working on ‘enhancing government-citizen or stakeholder communication/engagement.’ Along with identifying and scoping problems and generating ideas, engaging with stakeholders, citizens and users to understand their experiences appear to be key activities of PSI units in Australia and New Zealand.

Figure 20: Principal domains of innovation (Government-based units)

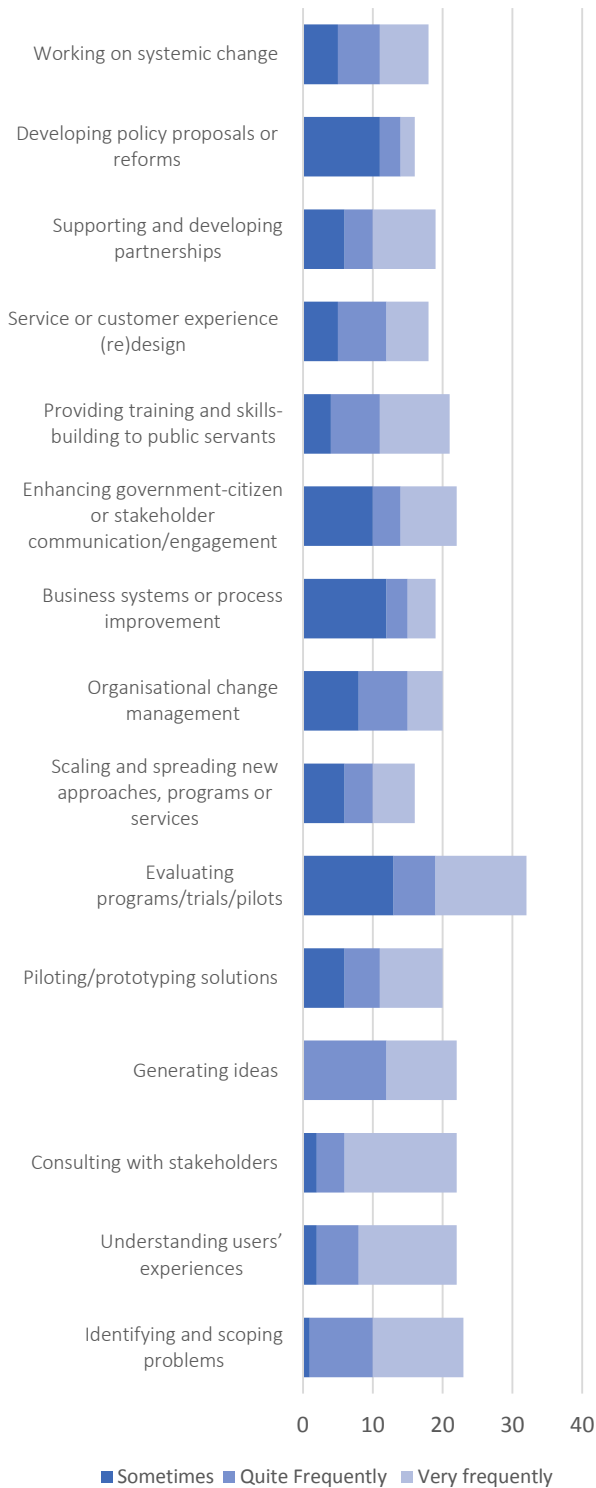
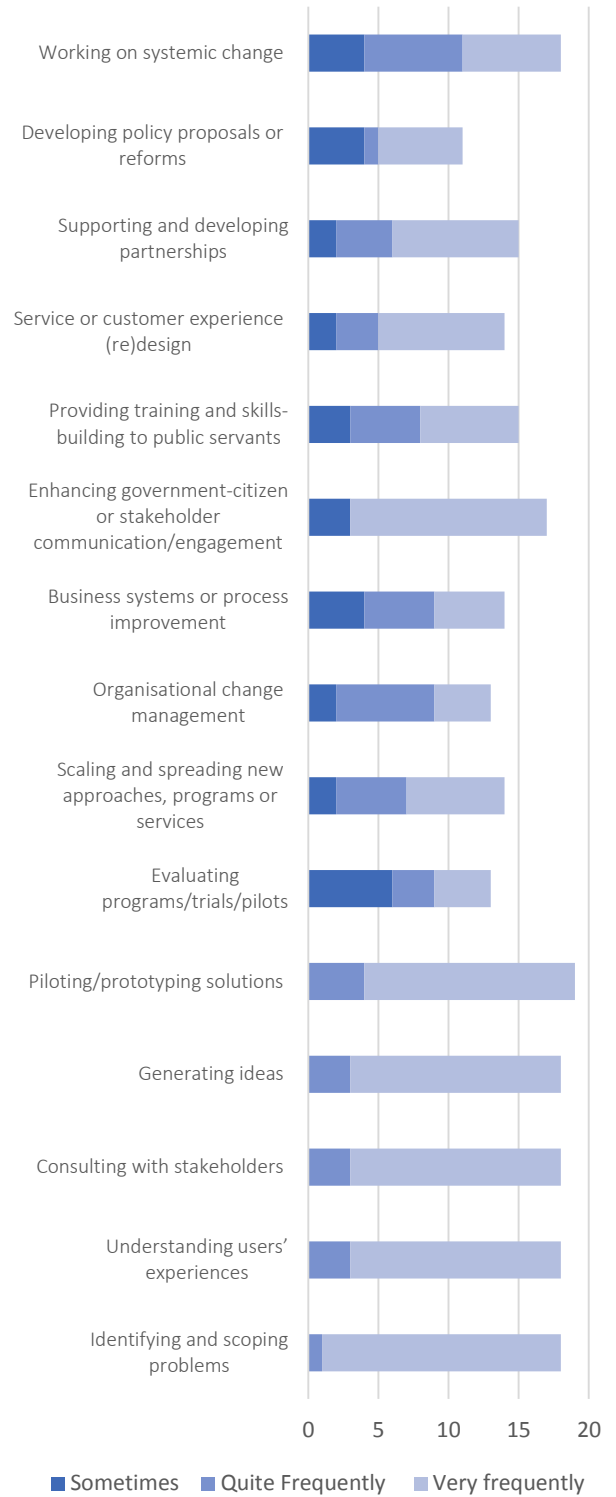


Figure 21: Principal domains of innovation (Independent units)



Further analysis of the varying innovation domains that PSI units reported working on, as described in Figures 20 and 21 above, indicated that their activities converged around three domains of public sector innovation:

1. *Policy development and reform*: involving identifying or scoping problems, consulting with stakeholders, scaling and spreading new approaches, supporting and developing partnerships, developing policy proposals and reforms, and working on systemic change;
2. *Evaluation and systems improvement*: based around evaluating programs/trials/pilots, incorporating technology into public administration, organisational change management, and business systems or process improvement; and
3. *User and customer-experience*: understanding users' experiences, generating ideas, piloting/prototyping solutions, and service or customer experience (re)design.

This is not to say that individual PSI units only displayed a tendency towards one of these domains but rather those that reported frequently working on identifying/scoping problems also tended to report working frequently on the other dimensions associated with the *policy development and reform* focus, and so on. As Figure 22 shows, both government-based and independent PSI units reported working extensively across all three domains of innovation – although the PSI units surveyed reported more frequently working in the domains of (1) *Policy Development and Reform* and (3) *User and Customer Experience* than (2) *Evaluation and Systems Improvement*. Moreover, units that tended to report frequently working in the domain of *Policy Development and Reform* also tended to report frequently working in the domain of *User and Customer Experience*. That is, as shown in Figure 23, individual PSI units that scored highly in the domain of *Policy Development and Reform* also reported high scores in the

domain of *User and Customer Experience*, suggesting complementarity between these two domains of innovation in terms of the capabilities required to work in these areas. Appendix B provides further details of how these three approaches to public sector innovation load onto their principal component factors, and how scores were calculated for individual survey respondents along each of these innovation domains. Moreover, within these two domains, independent PSI units tended to score more highly (out of 100) in relation to how frequently they worked in these areas. This coheres with the findings previously reported in Figures 20 and 21 showing that a greater proportion of independent PSI units report more frequently working on 'identifying and scoping problems', 'consulting with stakeholders', and 'developing policy proposals and reforms' than government-based PSI units (components of the *policy development and reform approach*). A greater proportion also tend to report more frequently working on 'generating ideas', 'piloting and prototyping solutions', and 'service or customer experience (re)design', which are key components of the *user and customer experience* domain.

Figure 22: Three principal domains of innovation

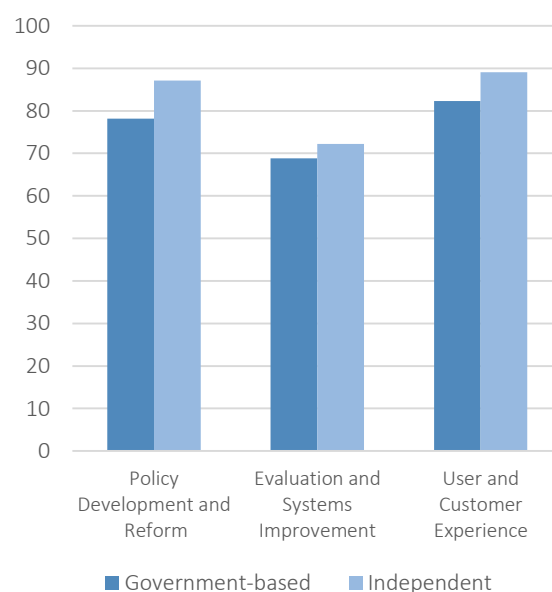
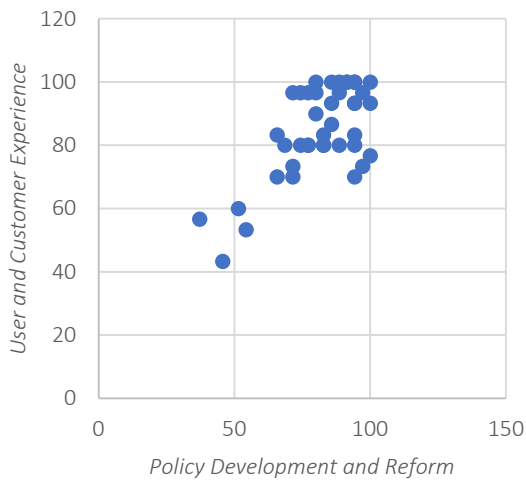


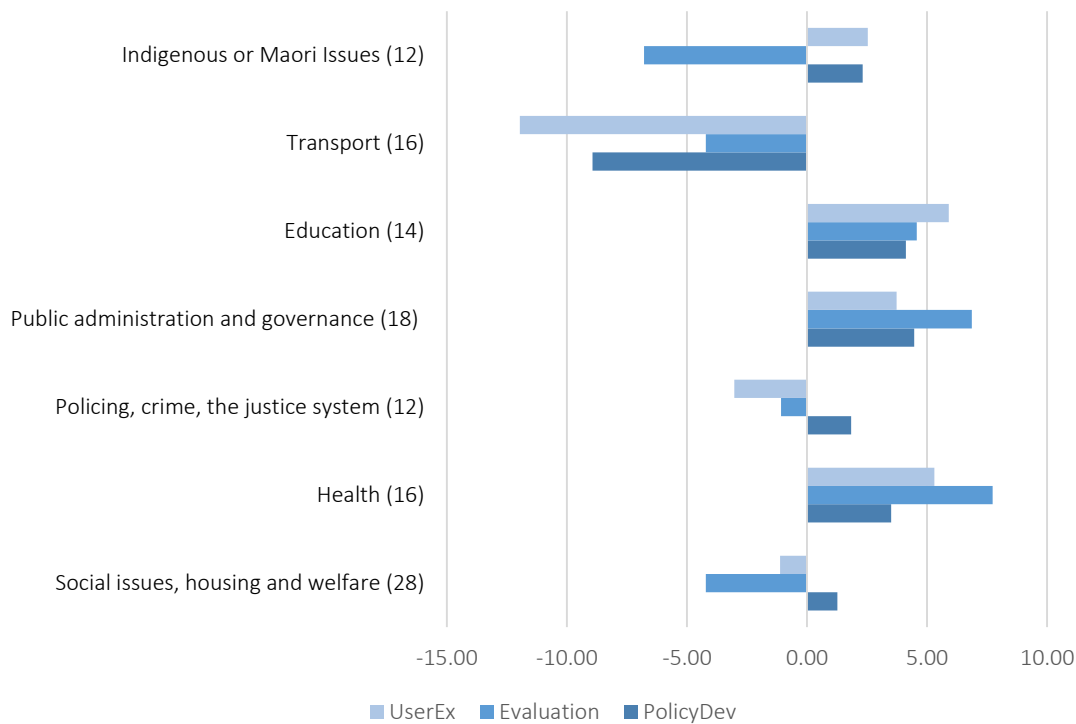
Figure 23: Correspondence between domains of innovation scores



We also considered whether particular domains of innovation were more frequently reported by PSI units working within specific policy and public service delivery areas. Figure 24 compares the innovation domain scores of PSI units that reported working in some of the more predominant policy areas against the innovation domain scores of the total sample of PSI units

more generally. The data suggests that units working within the policy areas of ‘Health’ and ‘Public Administration and Governance’ are more likely to frequently undertake work in the domain of *Evaluation and Systems Improvement* than PSI units more generally, while units working on ‘Social Issues, Housing and Welfare’ policy and on ‘Indigenous and Maori Issues’ are less likely to work in this domain compared with other PSI units. The data also indicate that the work of PSI units in relation to ‘Social Issues, Housing and Welfare; policy, on the one hand, and ‘Policing, Crime and the Justice System’, on the other, is most likely to involve activities in the domain of *Policy Development and Reform* whereas PSI units working in other policy areas appear to work across a wider range of domains (notwithstanding the very strong focus on *Evaluation and Systems Improvement* activities of the PSI units working in the areas of ‘Health’ and ‘Public Administration and Governance’).

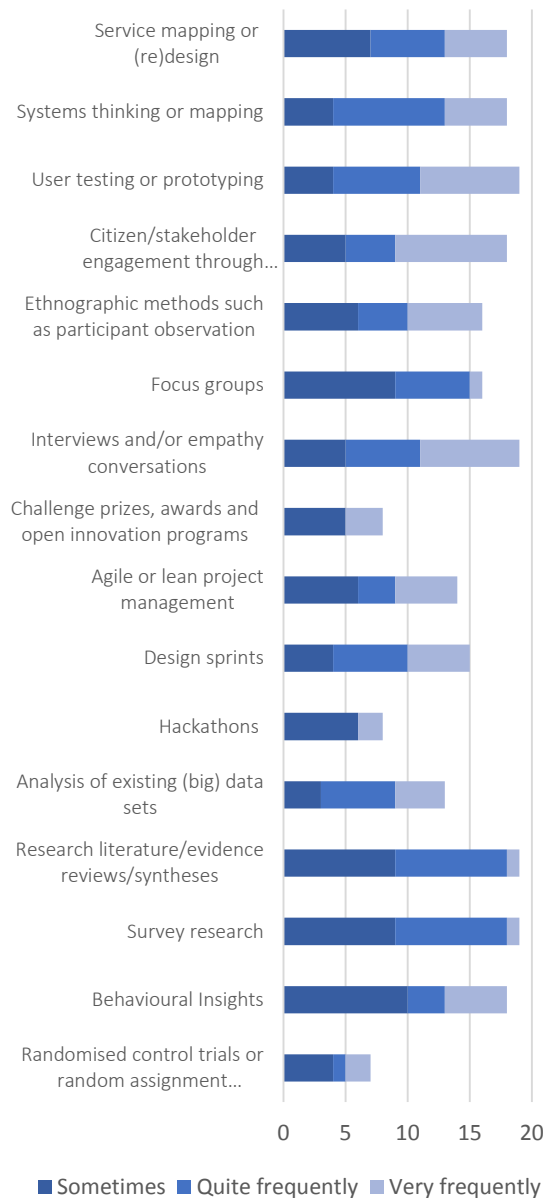
Figure 24: Innovation domains by policy areas that PSI units work on



THE METHODS OF PSI UNITS

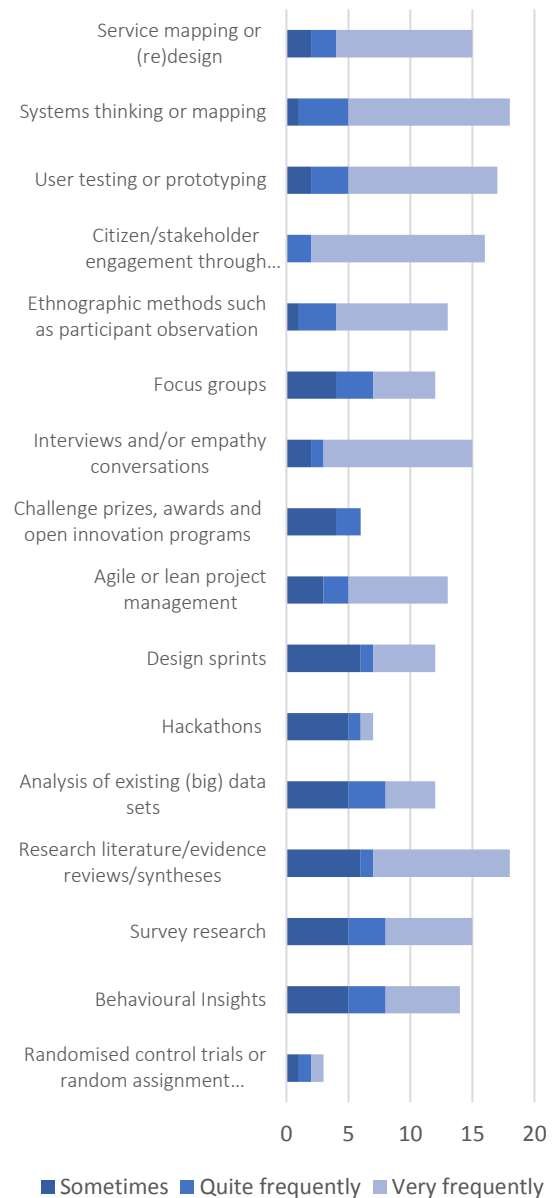
Within the aforementioned policy areas and domains of innovation, what are the main methods that PSI units are employing? We consider this in Figures 25 and 26, which report the findings on the extent to which PSI units are using a suite of methods—ranging from behavioural insights to survey research to ethnographic methods and human-centred design—in their work.

Figure 25: Principal methods (Government-based units)



Surprisingly, the data suggest that one of the gold standards of evidence-based policymaking, randomised control trials (RCTs), is seldom if ever used by PSI units. Only five PSI units reported using RCTs with any degree of frequency, although over 17 units reported drawing on ‘behavioural insights’—a methodology closely associated with RCTs—either ‘quite’ or ‘very frequently’ in their work.

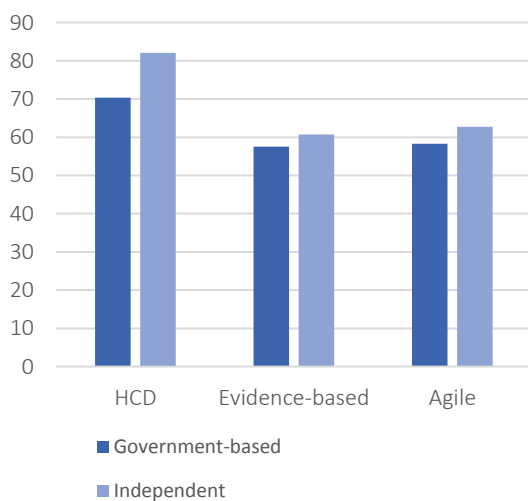
Figure 26: Principal methods (Independent units)



This suggests that PSI units may be relying more on the findings of research conducted by other organisations and applying these in practice than initiating experimental research of their own. This aligns with the high proportion of both government-based and independent PSI units that report frequently undertaking ‘research literature’ or ‘evidence reviews’. On the other hand, approximately half of the PSI units surveyed reported that they ‘quite’ or ‘very’ regularly undertake ‘survey research.’ However, it is unclear whether the survey research that PSI units undertake involves experimental work or whether it is principally designed to elicit insights by polling populations.

Human-Centred Design (HCD) methods such as ‘interviews/empathy conversations’, ‘citizen/stakeholder engagement workshops/walkthroughs’, and ‘user testing or prototyping’ are frequently reported methods used by PSI units in Australia and New Zealand—particularly independent PSI units—along with ‘systems thinking’ and ‘service mapping or (re)design.’ This aligns with international research on the spread of PSI units, which suggests that ‘design thinking’ and HCD approaches are a key focus of these new forms of experimental government.

Figure 27: Dominant methodological frameworks (mean scores)

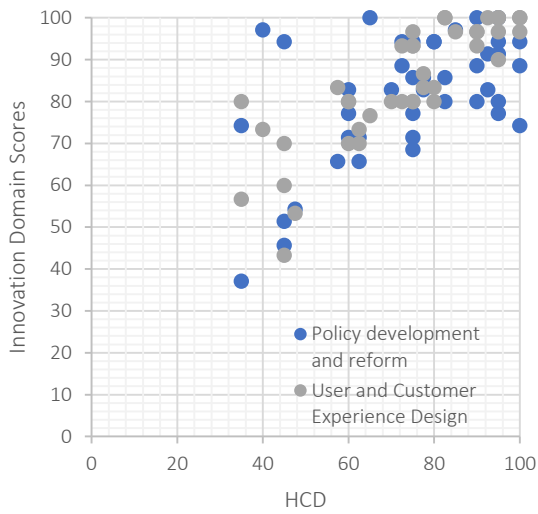


Again, further analysis of the sets of methodologies reported above suggested that the approaches of PSI Units converged around three methodological frameworks:

1. A *Human-Centred Design* framework: this is associated with the use of ‘interviews and/or empathy conversations’; ‘focus groups’; ‘ethnographic methods’; ‘citizen/stakeholder engagement through workshops, walkthroughs, and other collaborative approaches’; ‘user testing/prototyping’; and ‘systems thinking or mapping’;
2. An *Evidence-based* framework: this is associated with the use of ‘RCTs’; ‘Behavioural Insights’; ‘Survey research’; ‘Research/evidence reviews’; and the ‘Analysis of existing (big) data sets’; and
3. An *Agile methods* framework: this is associated with the use of ‘design sprints’; ‘agile or lean project management’; and ‘challenge prizes, awards, and open innovation programs’.

Details of how each of these frameworks load onto their component methods/factors are described in Appendix B, and although the three frameworks describe methodologically distinct approaches detected in the survey data they are not mutually exclusive. So the fact that a particular PSI unit may very frequently apply a *Human-Centred Design* framework within specific innovation domains or policy areas does not mean that it seldom uses an *Evidence-based* or *Agile methods* framework in others. Indeed, a comparison of PSI units’ scores along each of these frameworks suggests that independent PSI units frequently utilise all three frameworks in their work (See Figure 27), although they are especially likely to employ methods associated with a *Human-Centred Design* framework.

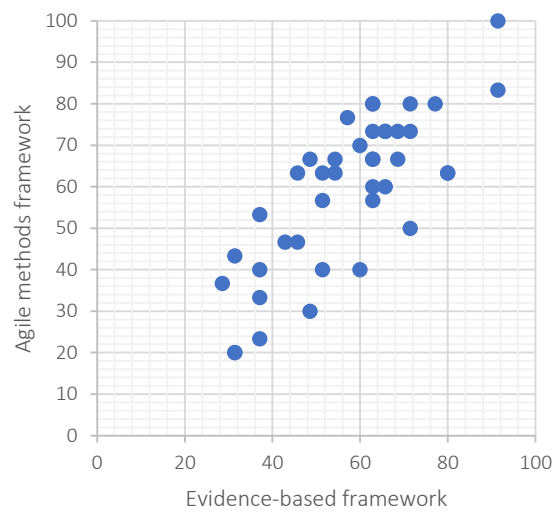
Figure 28: Correspondence between PSI Units' HCD and innovation domain scores



Human-Centred Design is the methodological framework most commonly reported by all PSI units, although government-based PSI units reported using this framework to a considerably lesser extent than independent PSI units. In comparison to methods associated with the HCD framework, PSI units across the board were less likely to report frequently using methods associated with either the Evidence-based or Agile methods frameworks.

However, analysis of the scores of individual PSI units along these two methodological frameworks (see Figure 29) suggested that units with a tendency to more frequently employ methods within an *Evidence-based* framework also exhibited a tendency to employ methods associated with an *Agile methods* framework. To a lesser extent, PSI units that reported frequently utilising methods associated with a HCD framework also reported regularly undertaking activities in the innovation domains of *Policy Development and Reform* and *User and customer-experience* (See Figure 28). However,

Figure 29: Correspondence between PSI units' scores for Agile and Evidence-based methods



this was not always the case and the results need to be interpreted cautiously given the small numbers of survey respondents.

Lastly, we considered whether particular methodological frameworks were more commonly reported by the PSI units working in specific policy areas than across the survey sample overall. The results reported in Figure 30 suggest that PSI units working in the policy areas of Education, Health and Indigenous or Maori issues are especially likely to utilise Human Centred Design methods in comparison to PSI units overall, while Evidence-based frameworks are more frequently employed by the units working in the areas of Education, Transport, and Health. Human-centred design methods are also commonly employed by PSI units working on Public Administration and Governance along with Agile Methods, which appear to be utilised very frequently by PSI units working in this policy/public service delivery area compared with PSI units overall.

Figure 30: Are certain methodological frameworks more prevalent in particular policy areas?

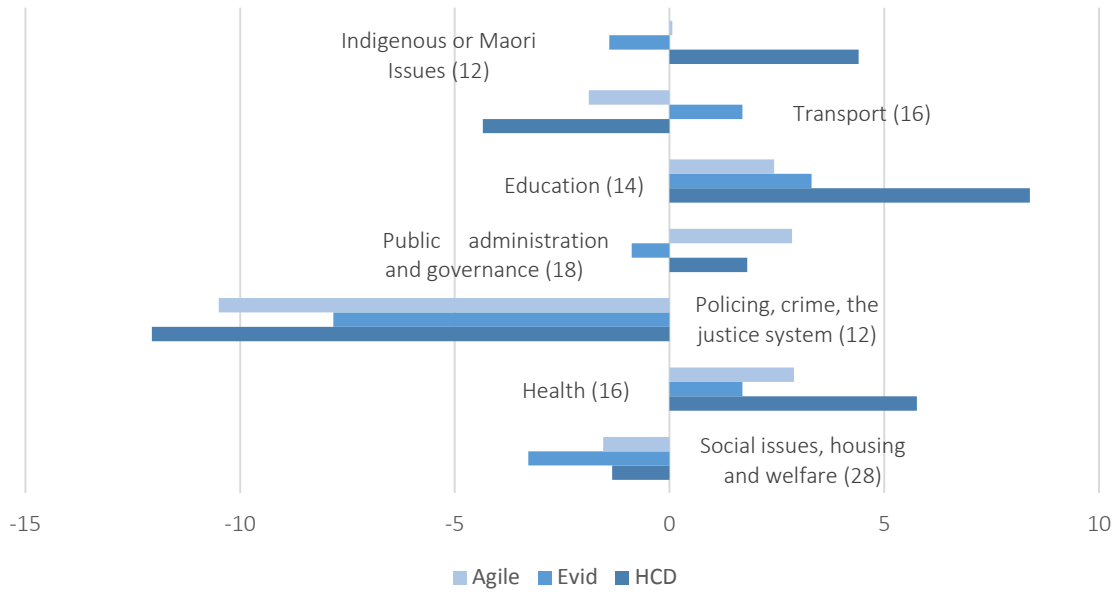
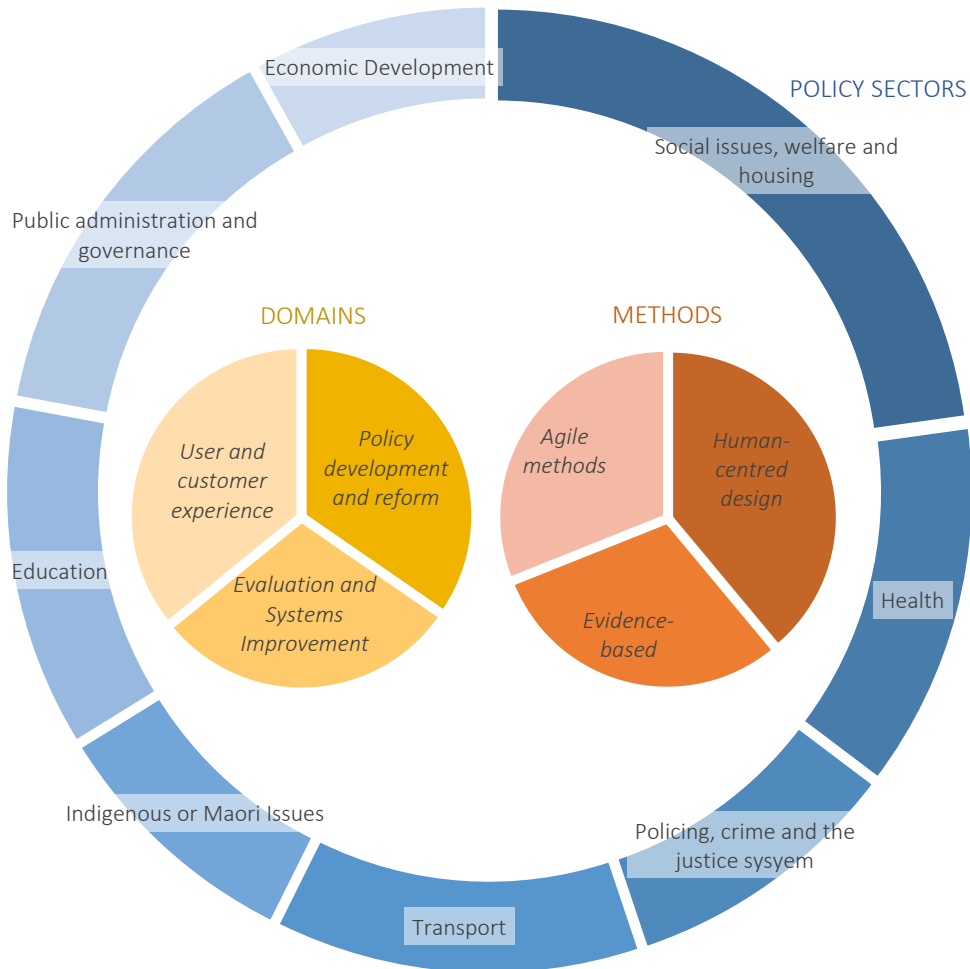


Figure 31: The policy sectors, innovation domains, and principal methods of PSI units



PSI units work across multiple policy sectors in Australia and New Zealand. Within any given sector, they may operate at different domain levels from undertaking Policy development and reform activities to focusing on Evaluation and systems improvement activities. Underlying their work in these innovation domains and policy sectors will be a suite of methodological frameworks from HCD to Agile methods.

Conclusion

There is clearly a vibrant public sector innovation landscape in Australia and New Zealand, with numerous PSI units using a variety of methods across different levels of government and policy sectors. Despite international claims that we may have reached ‘peak lab’ several years ago (Price 2014), government departments in Australia and New Zealand have launched at least 15 PSI units in the past three years, including four in the six months leading up to the survey. Meanwhile, several independent PSI units have demonstrated their longevity, with half of those participating in the survey having existed for more than five years. A total of six PSI units that have been operating for 10 years or more also participated in the survey.

In addition to the sheer number of PSI units in operation, and the difference between the operational age of independent and government labs, this report has presented interesting findings about public sector innovation units in Australia and New Zealand, notably:

- Their small size (in terms of staff numbers);
- High use of consultants and contractors;
- Mix of methods, including the strong tendency to use human-centred design alongside other approaches;
- Possible discrepancies in the methods used, such as using behavioural insights without randomised control trials, scoring high in ‘evaluation and systems improvement’ but not in ‘evidence-based methods’, or favouring human-centred design methods without much contact with citizens or community groups;

- Few examples of cross-departmental or multi-level government ownership;
- Some sectors (e.g. social policy and services) focused on much more than others (e.g. taxation, energy); and
- Relatively frequent contact with overseas PSI units.

This survey report only offers a partial view, based on the responses of PSI units that chose to participate in the survey at a specific point in time (early 2018). There are other PSI units in existence in Australia and New Zealand that did not participate in the survey, and it is not possible to determine the extent to which the results presented here are representative of the sector as a whole. Nevertheless, the high number and range of responses provide a rich picture of the range of organisations identifying as public sector or social innovation units in these neighbouring countries.

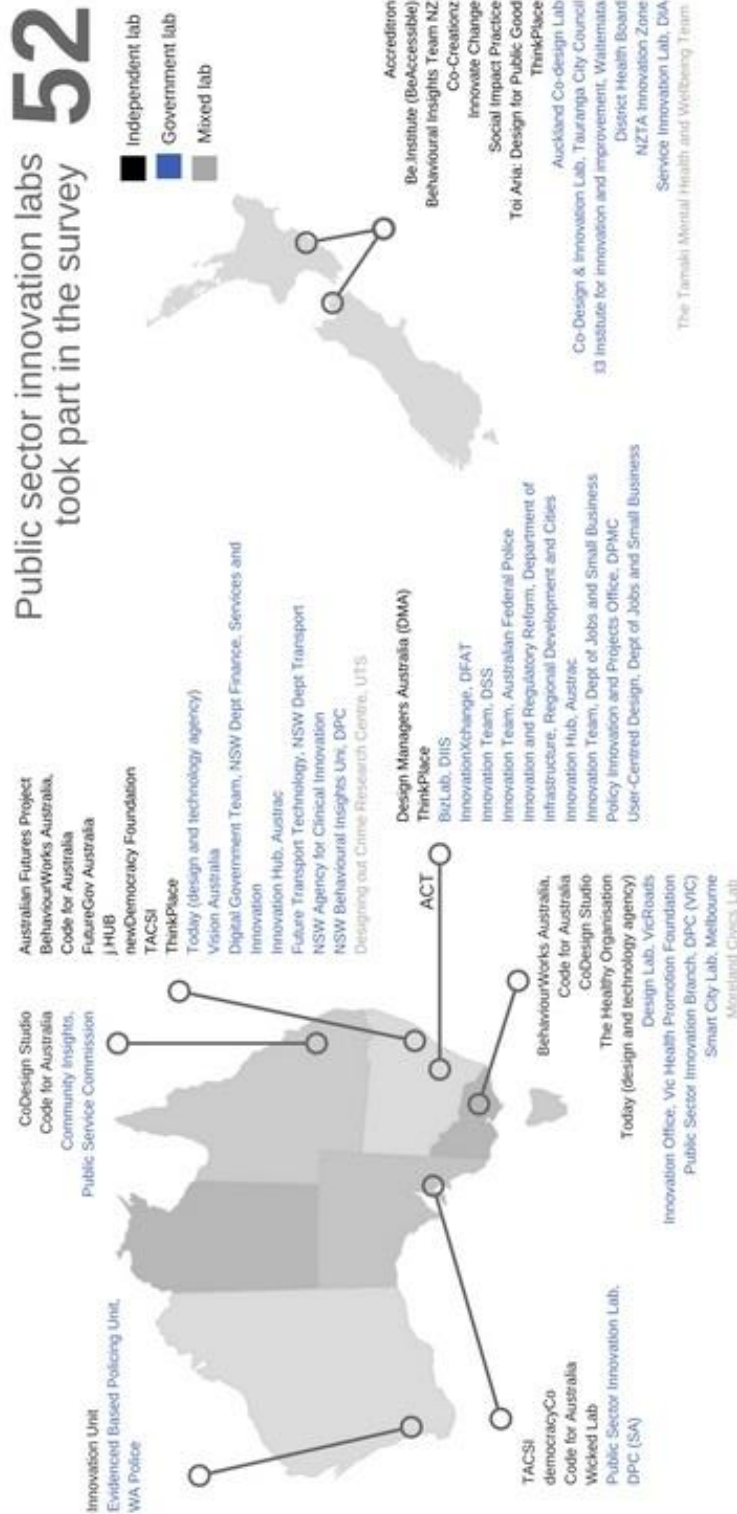
The survey represents one phase in a broader research project that the Policy Lab is conducting supported by a research grant from The Australia and New Zealand School of Government in 2018. The Policy Lab’s research team will continue this project and build on the survey results by carrying out five case studies of PSI units working on various policy and innovation domains at different levels of government. The case studies will provide richer insights into the governance and operations of the selected PSI units, their relationships with other actors and institutions, and the methodological approaches they apply. The results of this research will be available towards the end of 2018 and a public summary will be shared on the project web page:

<http://go.unimelb.edu.au/ix86>.

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Appendix A: Participating PSI Units by Geographical Location



Appendix B: Principal Component Analysis of Innovation Domains and Methodological Frameworks

INNOVATION DOMAINS: Rotated Component Matrix^a

	Policy development and reform	Evaluation and systems improvement	Design-based
[Identifying or scoping problems]	.579	-.067	.382
[Understanding users' experiences]	.541	.170	.676
[Consulting with stakeholders]	.634	.156	.518
[Generating ideas]	.432	.016	.723
[Piloting/prototyping solutions]	.330	.272	.693
[Evaluating programs/trials/pilots]	.379	.543	.295
[Scaling and spreading new approaches, programs or services]	.525	.610	.161
[Incorporating technology into public administration]	-.030	.766	.280
[Organisational change management]	.219	.832	-.035
[Business systems or process improvement]	.025	.821	.181
[Enhancing government-citizen or stakeholder communication/engagement]	.433	.396	.262
[Providing training and skills-building to public servants]	-.101	.198	.497
[Service or customer experience (re)design]	.004	.556	.646
[Supporting and developing partnerships]	.670	.310	.171
[Developing policy proposals or reforms]	.780	.020	-.194
[Working on systemic change]	.788	.142	.209

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 11 iterations.

METHODS FRAMEWORK - Rotated Component Matrix^a

	HCD	Evidence-Based	Agile Methods
[Randomised control trials or random assignment experiments]	-.011	.686	.032
[Behavioural Insights]	.498	.559	.256
[Survey research]	.198	.712	.082
[Research literature/evidence reviews/syntheses]	.199	.632	.052
[Analysis of existing (big) data sets]	.078	.604	.474
[Hackathons]	.268	.349	.315
[Design sprints]	.313	-.153	.847
[Agile or lean project management]	.100	.266	.770
[Challenge prizes, awards and open innovation programs]	.059	.470	.623
[Interviews and/or empathy conversations]	.683	-.026	.406
[Focus groups]	.738	.262	-.182
[Ethnographic methods such as participant observation]	.766	.134	.214
[Citizen/stakeholder engagement through workshops, walkthroughs, or other collaborative approaches]	.738	-.126	.248
[User testing or prototyping]	.568	.301	.404
[Systems thinking or mapping]	.712	.280	.023
[Service mapping or (re)design]	.814	.267	.155

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Scales – for innovation domains and methodological frameworks

Based on the results of the principal components analysis, scales were created for each of the three domains and three methods types. The scales were tested for reliability using Cronbach's alpha coefficients. Each of the scales consists of the items with the highest loading for that factor, plus in a small number of cases, the inclusion of items with loadings that were also high (see Appendices). In all cases, the alpha scores would have fallen if items had been removed. The alpha coefficients are all high (the lowest being 0.79), indicating a high level of reliability of these scales. The resulting scales were pro-rated so that they each have a maximum score of 100, regardless of the number of items in each, making the scores directly comparable.

Reliability analysis (Cronbach's alpha coefficients)

Scale:	Number of items	Alpha
<i>Domain policy development</i>	7	0.83
<i>Domain evaluation and improvement</i>	7	0.86
<i>Domain user and customer experience</i>	6	0.84
<i>Method human centred design</i>	8	0.88
<i>Method evidence based</i>	7	0.79
<i>Method agile</i>	6	0.79