

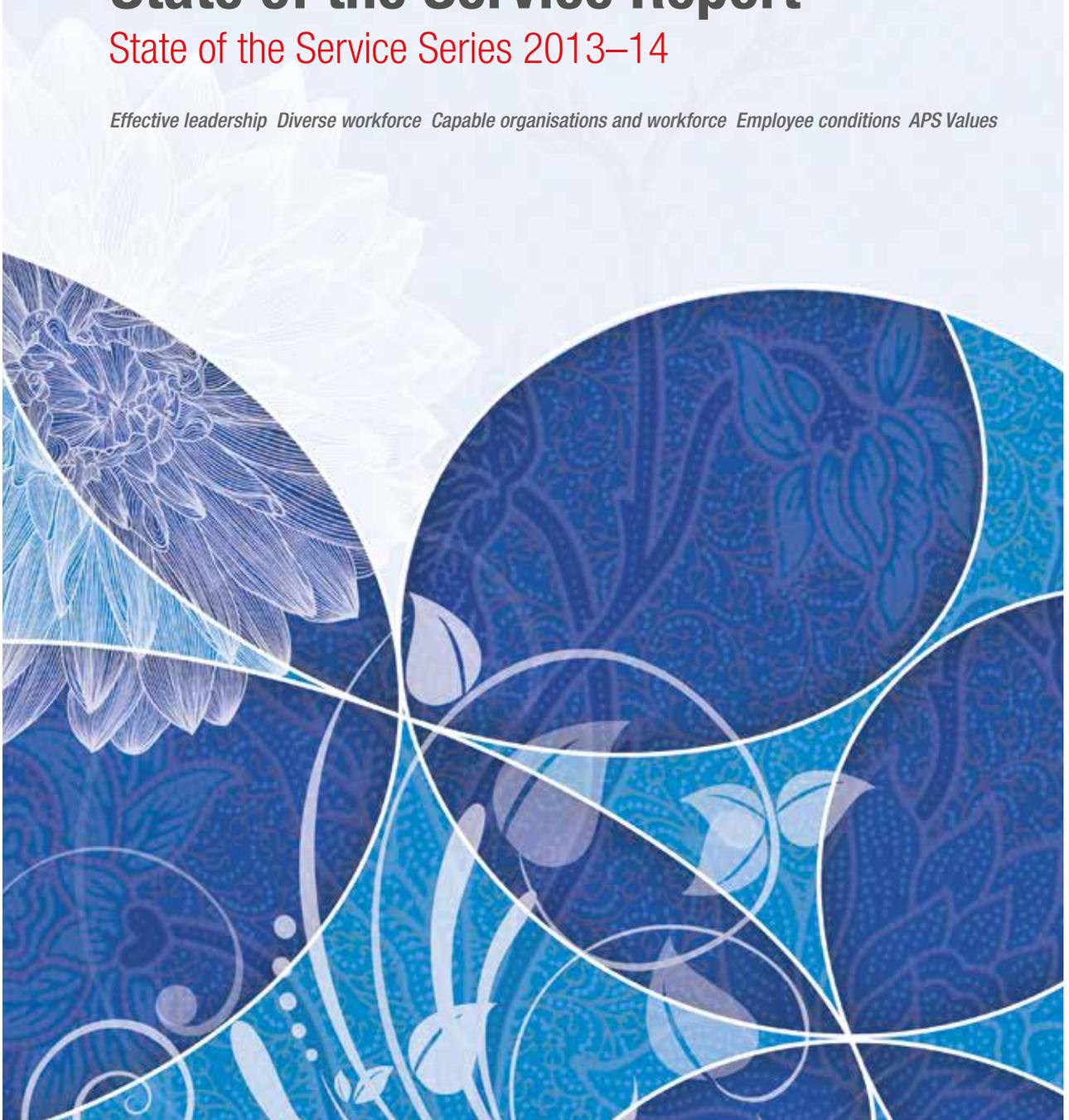


**Australian Government**  
**Australian Public Service**  
**Commission**

# State of the Service Report

State of the Service Series 2013–14

*Effective leadership Diverse workforce Capable organisations and workforce Employee conditions APS Values*



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# 7

## Open innovation

**The Australian Public Service (APS) aspires to be strategic and forward-looking with an intrinsic culture of evaluation and innovation. In times of fiscal constraint, the APS needs to be more efficient and innovative in how it develops policy, delivers services, manages itself and manages information. In the past, State of the Service reports have noted the twin pressures on the APS to maintain service levels with fewer resources and the need to respond to complex problems with new approaches aimed at maintaining and enhancing productivity. These pressures have increased significantly over the past 12 months.**

There have been calls, from inside and outside the APS, for public servants to be more innovative. For example, former Secretary Don Russell reflecting on the APS noted that<sup>1</sup>:

We have to create an APS where departments become ideas factories; ideas that have been properly researched and tested and that are only looking for objectives and values to be harnessed by the Minister or government of the day.

Tony Shepherd, AO, however, reflecting on his time as the President of the Australian Business Council and his experience as Chair of the National Commission of Audit, suggested that the deficiency of imagination and innovation spread beyond the public service<sup>2</sup>:

In these last several months working on the audit, it's struck me how much the country has been held back in recent years by a lack of imagination—in policymaking and, at times, in business.

Typically, public sector innovation takes an inside-out approach. That is, innovation is seen to emerge from the way in which public servants and agency resources are organised to deliver innovative outcomes. Beyond the public sector, the way innovation is achieved has changed substantially from this model.

The open source software movement crystallised an alternative approach to innovation where resources external to the organisation (in the form of user communities) design, develop, distribute, and support complex products. Sometimes this is in alliance with incumbent businesses and sometimes in opposition to those businesses. The rise, and increasing prevalence, of an open innovation approach, which locates innovation

<sup>1</sup> Russell, D 2014, *Dr Don Russell: reflections on my time in Canberra*, Crawford School of Public Policy: Australian National University College of Asia & the Pacific, Canberra, viewed 19 September 2014, <<https://crawford.anu.edu.au/news/3851/dr-don-russell-reflections-my-time-canberra>>.

<sup>2</sup> Shepherd, T 2014, *Farewell Address by Tony Shepherd AO, Outgoing President of the Business Council of Australia, Business Council of Australia*, Business Council of Australia, Melbourne, viewed 19 September 2014, <<http://www.bca.com.au/newsroom/speeches-and-presentations>>.

outside traditional organisational structures and its use of non-hierarchical ways of organising and accessing people and resources, challenges the way the APS and its agencies have traditionally approached innovation.<sup>3</sup> There are, however, good examples of open innovation approaches within the APS and these will be highlighted.

In the private sector, open innovation has been more formally defined as:

... the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively.<sup>4</sup>

In the public sector, innovation similarly depends on the openness of the APS to think and work beyond traditional institutional boundaries, to accelerate internal innovation and beyond the APS, to collaborate with broader (and often non-traditional) communities to ensure better outcomes for government and citizens. The Household, Income and Labour Dynamics in Australia (HILDA) survey is a good example of this. It will be discussed in more detail later in this chapter.

Two key ideas underpin open innovation: no organisation, however big, can rely exclusively on internal innovation resources to improve performance in an interconnected business environment; and organisational capability in open innovation requires a predisposition to sharing, collaborating, experimenting and managing risk.

This chapter reports on the ‘culture of innovation’ in the APS, focusing on a broad understanding of open innovation as sharing, collaborating and experimenting. It examines the ways in which the APS engages in open innovation at an organisational level, and the enablers of and barriers to ‘bottom-up’ innovation in APS workplaces.

## Open data supporting open innovation

Opening up the APS innovation process requires making best use of available tools to access, assimilate and apply the knowledge that is available inside and outside the APS. Tools range from those that facilitate information transfer and knowledge management within agencies and across the APS to those that enable citizens to create and configure their own product with tools provided by the agency, or enable agencies to integrate external problem solvers (academics, businesses or citizens) into developing and delivering innovative services.

In October 2013, a joint project of the World Wide Web Foundation and the Open Data Institute studied 77 countries’ open government data practices at a national level. Australia ranked seventh in the list of countries most advanced in open data readiness, implementation and impact. The United Kingdom (UK) was ranked first, followed by the United States (US), Sweden, New Zealand, Norway and Denmark.<sup>5</sup>

The UK Government places high priority on open data, launching its Open Government Data initiative in 2009. The emphasis, focus and importance it places on open data is best captured by Francis Maude who has been responsible for overseeing the UK Government’s transparency

<sup>3</sup> Lakhani, KR, Lifshitz-Assaf, H & Tushman, M 2013, ‘Open Innovation and Organizational Boundaries: Task Decomposition, Knowledge Distribution and the Locus of Innovation’ in A Grandori (ed), *Handbook of Economic Organization: Integrating Economic and Organization Theory*, Edward Elgar Publishing, Northampton, Massachusetts, pp. 355–382.

<sup>4</sup> Chesbrough, HW, West, J & Vanhaverbeke, W 2006, *Open innovation: Researching a new paradigm*, Oxford University Press, Oxford, p. 1.

<sup>5</sup> Davies, T 2013, *Open Data Barometer—2013 Global Report*, Joint Project of the World Wide Web Foundation and Open Data Institute, London, viewed 19 September 2014, <<http://www.opendataresearch.org/barometer>>.

policy. Maude sees open data as, ‘a raw material for economic growth—just like iron and coal were to the industrial revolution.’<sup>6</sup>

In Australia, the Declaration of Open Government, the establishment of data.gov.au, and the publication of the Principles on Open Public Sector Information are all central to ensuring the data held by Australian Government agencies is more readily available for re-use. One report listed the value to be gained from open government data as<sup>7</sup>:

- reducing the cost of existing government and private services (enhancing efficiency, doing more with less)
- enabling new services and improved quality of services (enhancing innovation)
- improving transparency and accountability (enhancing consumer empowerment and governance).

These effects contribute to engendering greater trust in government, which enables further benefits, such as greater participation.

The central Australian public dataset repository (data.gov.au) has approximately 3,700 government datasets available for re-use.<sup>8</sup> This case study is one example of how open government data enabled the development of a new information service.

## Department of Industry: Energy rating app



**The free energy rating app is designed to help households and businesses save money on their power bills by choosing energy efficient appliances. The app uses the data behind the well-known and trusted energy rating labels that are part of a highly successful industry and government programme. The labels appear on the more than 7 million appliances sold in Australia and New Zealand every year.**

Manufacturers provide this data as they register their appliances for sale. The Department of Industry provides this data on the energy rating website (energyrating.gov.au) and data.gov.au. Making data freely available unlocks information for those who need it and creates opportunities for developers and industry.

Uploading data onto data.gov.au automatically creates a free application programming interface which makes the data machine-readable and easier for developers to use and combine with other data sets to create new apps.

This interface also makes it possible for retailers to automatically and accurately update the energy rating information on their websites every 24 hours to give customers the very latest information about their products.

Data.gov.au made it easy for the department, suppliers and developers to collaborate and create the energy rating app and create new business opportunities, promote energy efficient appliances and help households and businesses save money.

Video: <<https://www.youtube.com/watch?v=izLhmBRrZ1o&feature=youtu.be>>

<sup>6</sup> Maude, F 2014, *Francis Maude welcomes France to the Open Government Partnership*, GOV.UK, London, viewed 19 September 2014, <<https://www.gov.uk/government/speeches/francis-maude-welcomes-france-to-the-open-government-partnership>>.

<sup>7</sup> Gruen, N, Houghton, J & Tooth, R 2014, *Open for business: How open data can help achieve the G20 growth target*, A Lateral Economics report commissioned by Omidyar Network, Omidyar Network, London, p. viii, viewed 19 September 2014, <<http://www.omidyar.com/blog/business-case-open-data>>.

<sup>8</sup> Data.gov.au 2014, Department of Finance, Commonwealth of Australia, Canberra, viewed 19 September 2014, <<http://www.data.gov.au>>.

## Open government data

Open data, big data, and open government data are related terms. A recent report defined open data sets as sharing these characteristics<sup>9</sup>:

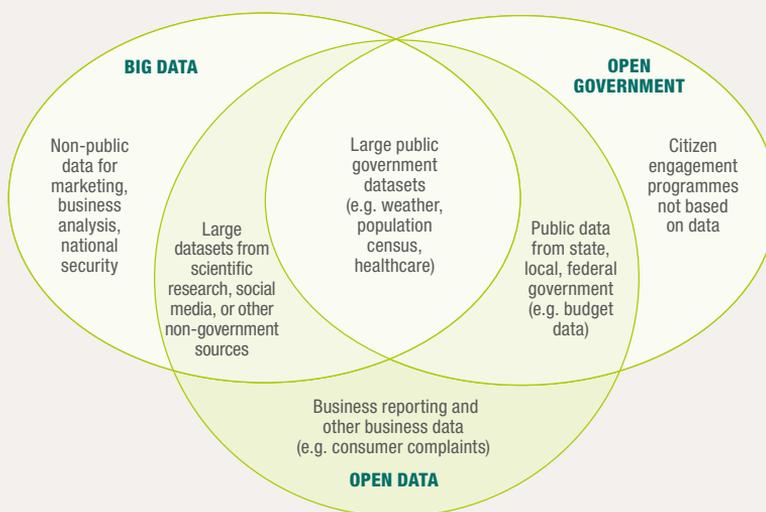
- accessibility—a wide range of users is permitted to access the data
- machine readability—data can be processed automatically
- cost—data can be accessed free or at negligible cost
- rights—limitations on the use, transformation and distribution of data are minimal.

The same report provides this additional distinction between open data and big data:

Open data sets also are defined in relation to other types of data, especially big data. ‘Big data’ refers to data sets that are voluminous, diverse, and timely. Open data is often big data, but ‘small’ data sets can also be open. We view open and big data as distinct concepts. ‘Open’ describes how liquid and transferable data are, and ‘big’ describes size and complexity of data sets. The degree to which big data is liquid indicates whether or not the data are open.

Figure 7.1 shows the distinctions within each category.<sup>10</sup>

**Figure 7.1.** Mapping the distinction between open data, big data and open government data



Source: Adapted from <<http://www.opendatanow.com/2013/11/new-big-data-vs-open-data-mapping-it-out>>.

<sup>9</sup> Manyika, J, Chui, M, Farrell, D, Van Kuiken, S, Groves, P, Almasi & Doshi, E 2013, *Open data: Unlocking innovation and performance with liquid information*, McKinsey Global Institute, p. 3–4, viewed 19 September 2014, <[http://www.mckinsey.com/insights/business\\_technology/open\\_data\\_unlocking\\_innovation\\_and\\_performance\\_with\\_liquid\\_information](http://www.mckinsey.com/insights/business_technology/open_data_unlocking_innovation_and_performance_with_liquid_information)>.

<sup>10</sup> Gurin, J 2013, ‘Big Data vs Open Data—Mapping It Out’, weblog post, 8 November, Datasphere, Open Data Now, viewed 19 September 2014, <<http://www.opendatanow.com/2013/11/new-big-data-vs-open-data-mapping-it-out>>.

A map of the government data landscape, including projects, policies and community initiatives, demonstrates the variety of government data available for public re-use.<sup>11</sup> The following examples provide insight into the way open government data is being made available by APS agencies for re-use. The first shows how open government data can be used to draw together people from government, industry, academia and the general public to mix, re-use and remix government data. The second shows how a small change in the way data is available and accessible can lead to efficiencies for the APS and those outside the service.

## Encouraging engagement with government data

GovHack is Australia's largest civic hackathon. It represents an important shift towards collaborative and cross-disciplinary problem solving involving the public sector, private sector and citizens of all ages and skills. Its purpose is to find new ways of using government data and encouraging open government and open data.<sup>12</sup>

GovHack 2014 brought together more than 1,300 competitors and observers from across Australia to create more than 200 'hacks' using data from all levels of government. The competition uses the term 'hack' in the positive sense. The idea is to bring data together in novel ways to create something new or to solve a technical or real-world problem. The overriding objective is to challenge participants to use government data to address real community needs and build social and economic benefits.

Competition entries cover a broad range of themes such as digital humanities, science, data journalism, open government, social inclusion and health. They include creative applications, crowdsourcing tools, data visualisations, detailed analysis, new ways to deliver government services, and functional improvements for open data platforms across the country. In 2014, many teams were extremely creative not only in how they used government data but also in addressing real community needs, and building social and economic benefits.

GovHack brings citizens face-to-face with policy makers to deliver first-hand perspectives of what the community needs from government and the data it holds, while showcasing the technical community in Australia.

## The benefits of making government data available

On Budget Night 2014, for the first time, the tables and spreadsheets from the Budget were published in data form on data.gov.au. This collaborative project between the Department of Finance (Finance) and the Department of the Treasury (Treasury) focused on two key activities.

First, the tables from agency Portfolio Budget Statements (PBS) were made available in spreadsheet form. Historically, this information was only available in the publicly-available PBS reports as PDF documents. Significant additional manual effort was then required by data users to translate the data from PDFs to a form that could be accessed and used.

<sup>11</sup> Waugh, P 2013, 'The Government Data Landscape in Australia', weblog post, 20 October, AGCTO, Department of Finance, Commonwealth of Australia, Canberra, viewed 19 September 2014 <<http://www.finance.gov.au/blog/2013/10/26/government-data-landscape-australia>>.

<sup>12</sup> More information about GovHack can be found on its website, viewed 19 September 2014, <<http://govhack.org>>.

Second, key tables from Budget Paper 1 and Budget Paper 4 were made available in spreadsheet form. Finance undertook to make a number of these spreadsheets available as machine readable files which allowed easier re-use for analysis and data visualisation.

In the lead up to Budget Night, Finance engaged with well-known Budget data users to ensure the data was published and made accessible in a machine readable and beneficial format. Two weeks before publishing the data Finance announced in a blog post that the data would be released. This ensured many Budget data users would not unnecessarily engage in the work of transforming data from the Budget Papers, as they had traditionally had to do.

While this was a modest effort in providing open government data to users, it yielded good returns for the public sector, industry and the community. The Budget 2014 dataset on data.gov.au was the third most popular dataset viewed in May and June. It was also the second highest accessed dataset for May and June.

Feedback from users emphasised the time saved by accessing the data directly and in a useable form. For example, several government departments are required to analyse the aggregate budget data from Budget Paper 1 and Budget Paper 4. One department reported it saved eight hours over previous years. Outside the public sector, two organisations reported saving around 20 hours of data transformation time. Previously, it would have been necessary to manually extract data from the PBS PDFs by downloading PDF files individually from respective portfolio agency websites and translating the data into a machine readable format for data visualisation and analysis.

The 2014 Budget data was used by agencies, industry, the media and the community. These links provide examples of how it has been used:

- The Open Budget ([theopenbudget.org](http://theopenbudget.org))
- BudgetAus ([infoaus.net/budget](http://infoaus.net/budget))
- Public Sector Gains and Losses ([ausviz.com/wordpress](http://ausviz.com/wordpress)).

Finance and Treasury are reviewing lessons learned from 2014 to identify ways to improve the process and publish more data from the Federal Budget for 2015.

## Open data toolkit

Finance provides whole-of-government infrastructure for discovering and publishing data, working closely with many departments and other government jurisdictions to share best practice, code, policy, planning and lessons learned. Finance and the Department of Communications (Communications) are working collaboratively to develop and maintain an open data toolkit that brings together Finance's responsibilities around open and big data policy, Communications' responsibilities around spatial policy, and expertise, best practices and guidance from across the public service into a single location.

This collaborative approach across the APS and other government entities has created a resource that will be iteratively improved over time through shared resources, expertise and costs, for the benefit of the APS and other public sector organisations. Identifying mutually beneficial opportunities for collaboration is an important way to innovate and improve government services and efficiencies.

## Geoscience Australia: Transforming open government with a network of open data



**Geoscience Australia (Geoscience) has been committed to open government since 2008 when it began applying Creative Commons By Attribution (CC-BY) licensing to its data and products as the default.<sup>1</sup> Open access licensing permits innovative use of Geoscience data and information so research, industry, other government agencies (at all levels) and the community can generate economic, social or other outcomes of benefit to Australians. To maximise re-use of information, however, government data and information needs to be free, discoverable, based on open standards and accessible online in machine readable formats. This is required to enable uptake by the broadest range of potential users.**

In 2013–14, Geoscience implemented the Data Stewardship initiative, creating a new business-as-usual section with a focus on improving data standards and governance, providing innovative data sharing tools and making data openly accessible through web services, to maximise stakeholder use of authoritative geoscience data. Machine-to-machine communication over the internet greatly enhances the rapid discovery, access and use of data and information. Geoscience has been creating spatial data web services since the late 1990s but only skilled spatial scientists could discover and make use of them. Recent advances in information technology and the implementation of broadband networks, however, have driven the development of online portals, mobile applications, and government 'Globe' map visualisation tools that draw on web services as the input to regularly updated information products. To satisfy this growing demand for geoscience data, Geoscience created and released approximately 90 new data web services in 2013–14.

In the 'Government Open Data Network' initiative, Geoscience works collaboratively with

Communications and Finance to provide online tools and services that make it easy for the public to discover, share and visualise government data. In December 2013, for example, Geoscience collaborated with data.gov.au to implement a machine-to-machine harvest of Geoscience's product catalogue, which provides metadata with links to the data. This increased the number of government datasets that can be discovered through data.gov.au overnight from around 400 to more than 3,000. In April 2014, Geoscience launched FIND, the Australian Government's online portal that allows users to discover and access spatial data from agency 'nodes' across all levels of government and research data providers. The portal currently provides access to data from 143 organisations. This number will rapidly grow as agencies progressively develop their capability to enable machine-to-machine online access to their data. FIND differs from data.gov.au in that it provides spatial search functionality and simple map visualisation, but metadata is shared between the portals through machine-to-machine catalogue services to maximise the discovery of government data and information.

Geoscience is also working in collaboration with Communications and National ICT Australia on the National Map project, a web mapping application that provides users with intuitive access to a wide range of geospatial data from many Australian Government agencies, from federal to local level. A beta version of National Map was released by the Minister for Communications in the week leading up to GovHack in July 2014. Its architecture is based on open protocols and formats to allow straightforward incorporation of data web services from many systems and initiatives. As a key component of the Government Open Data Network, the National Map will be seamlessly linked to provide visualisation of government open data discovered through data.gov.au and FIND.

<sup>1</sup> Government 2.0 Taskforce 2009, *Engage: Getting on with Government 2.0*, Government 2.0 Taskforce Report, Department of Finance, Commonwealth of Australia, Canberra, viewed 1 October 2014, <<http://www.finance.gov.au/publications/gov20taskforcereport>>.

## Experimenting and engaging to innovate

There is a persistent view that characterises the public sector globally as conservative, bureaucratic and reluctant to change.<sup>13</sup> This view has been challenged, in particular in relation to service innovation.<sup>14</sup> The public and media scrutiny under which the public sector needs to innovate is, however, significantly higher than in the private sector, and often the focus is confined to achieving efficiencies in the way public services are delivered. One author characterised the environment in this way<sup>15</sup>:

Any failure ... leads to inefficiency, which of course is bad ... Innovation, along with uncertainty, entrepreneurship; imagination, experimentation, competitive enterprise and technological and structure change are excluded, by definition.

While this is an extreme characterisation, the reality of innovation in the public sector involves complex political and stakeholder considerations that lead to variable assessments of risk tolerance. Open innovation, based on the idea of ‘free-revealing’ (providing others with early insights into thinking or data) to engage users and stakeholders in concept and design, requires a different risk appetite and new techniques. For example, open innovation is characterised by early involvement of stakeholders in iterative, interactive probe-and-learn approaches to understanding a problem and developing solutions.<sup>16</sup> These approaches challenge the more structured approaches to innovation that have characterised traditional inside-out approaches.

The above notwithstanding, there are good examples in the APS of where open innovation approaches have been successfully employed. One initiative by the then Department of Families and Community Services is the HILDA survey, which has been running since 2001. This is one of only a small number of well-established, large, nationally-representative household panel studies in the world.<sup>17</sup> The contract to design and manage the HILDA survey was awarded to the Melbourne Institute of Applied Economic and Social Research (at the University of Melbourne). The data collected through the HILDA survey is available as a confidential longitudinal dataset on application from the Department of Social Services (DSS). HILDA survey data has been used by academics, government and other research bodies to achieve a range of outcomes. Its website tracks these uses and outcomes in a bibliography.<sup>18</sup> As at September 2014, this bibliography included the details of more than 540 journal articles, 34 books or chapters in books, and a large range of other publications, including student essays and dissertations and conference, research and discussion papers.

<sup>13</sup> Borins, S 2002, ‘Leadership and innovation in the public sector’, *Leadership & Organization Development Journal*, vol. 23, no. 8, pp. 467–476; Mulgan, G & Albury, D 2003, *Innovation in the public sector*, working paper version 1.9, Strategy Unit, United Kingdom Cabinet Office, London, viewed 19 September 2014, <[http://webarchive.nationalarchives.gov.uk/20130128101412/http://www.cabinetoffice.gov.uk/strategy/work\\_areas/innovation.aspx](http://webarchive.nationalarchives.gov.uk/20130128101412/http://www.cabinetoffice.gov.uk/strategy/work_areas/innovation.aspx)>.

<sup>14</sup> Gray, A, Broadbent, J & Hartley, J (eds) 2005 ‘Editorial: The state of public management—improvement and innovation’, *Public Money and Management*, vol. 25, no. 1, pp. 7–8; Walker, RM 2008, ‘An empirical evaluation of innovation types and organisational and environmental characteristics: Towards a configuration framework’, *Journal of Public Administration Research and Theory*, vol. 18, no. 4, pp. 591–615.

<sup>15</sup> Potts, J 2009, ‘The innovation deficit in public services: The curious problem of too much efficiency and not enough waste and failure’, *Innovation: Management Policy and Practice*, vol. 11, no. 1, p. 36.

<sup>16</sup> Gassmann, O, Enkel, E & Chesbrough, H 2010, ‘The future of open innovation’, *R&D Management*, vol. 40, no. 3, pp. 213–221.

<sup>17</sup> Watson, N & Wooden, M 2012, ‘The HILDA survey: A case study in the design and development of a successful household panel study’, *Longitudinal and Life Course Studies*, vol. 3, no. 3, pp. 369–381, viewed 2 October 2014, <<http://www.llcsjournal.org/index.php/llcs/article/view/208>>.

<sup>18</sup> Melbourne Institute of Applied Economic and Social Research, *The Household, Income and Labour Dynamics in Australia (HILDA) Survey*, University of Melbourne, Melbourne, viewed 2 October 2014, <<http://www.melbourneinstitute.com/hilda>>.

The approach to innovation at the Department of Human Services (DHS) is also noteworthy. The iDHS programme was launched in October 2012 and by May 2014 more than 1,100 ideas had been submitted with more than 900 posted and discussed through online employee forums.

The process which has seen more than 4,000 posts from approximately 1,300 different commentators effectively allows for employees to moderate and shape the evolution of innovation proposals against the strategic objectives of providing easy and efficient access to services. Time-limited challenges also provide regular open forums for employees focusing on specific business initiatives or issues. These mirror the extensive efforts that DHS already undertakes in engaging customers and community representatives in co-designing services.

Additionally, DHS holds administrative (mainly payment) data from the Centrelink, Medicare and Child Support master programmes. Final responsibility for external release of that data lies with the responsible policy agencies (DSS for Centrelink and Child Support data, and the Department of Health for Medicare).

External requests for data from these databases can be made to [statistics@humanservices.gov.au](mailto:statistics@humanservices.gov.au) which is administered by DHS on behalf of policy departments. Release of data depends on the request meeting legislative and privacy provisions (which includes a guarantee of anonymity and the purpose of the research being in the public good), plus the scale of the request being within the scope of resources available to meet it. This determination is made by the External Requests Evaluation Committee (EREC) for Medicare data requests.

During January to August 2014, 203 external applications for requests for information were received and assessed by the EREC, with 20 of these (9.85%) declined. There were 86 external requests for Centrelink data and 15 requests for Child Support data in the same period, all of which were met.

In the same period DHS received nine requests for data for data linkage projects, all of which were approved. These are assessed under the guidelines for data integration involving Australian Government data. In addition, DSS placed a large number of statistical datasets on [data.gov.au](http://data.gov.au) which are available in machine readable format.

## **DesignGov: Exploring business and government interaction**

Last year's State of the Service report noted the establishment of DesignGov as an 18-month experimental project to explore new methods in solution formulation, development and delivery. DesignGov employed approaches and techniques consistent with the probe-and-learn approach to innovation.

DesignGov's major project was to demonstrate how design principles and techniques might be applied to improving interactions between business and government. The guiding question for the project was: How might we dramatically improve business and government interactions?

Fifteen small to medium-size business owners and operators in manufacturing, information technology-enabled services and hospitality/retail sectors, together with six intermediaries and 18 federal and state public servants engaged in the project. Additional information, insights and ideas were obtained from workshops, online collaboration platforms, meetings, desktop research and surveys.

DesignGov gathered insights from the businesses, intermediaries and public servants involved in the project (shown below) and was able to highlight that the complexity in the relationship between business and government arises from each using different processes, different language and having different expectations and requirements of each other.<sup>19</sup>

## DesignGov: Insights



### Small businesses

Small businesses feel marooned and cut off from champions in government or industry. They feel alone, different from big business and not understood. They find it too hard to navigate government for the right information. They are frustrated by the constant change in policy and compliance requirements and often fear they are unwittingly doing the wrong thing.

Small businesses do not necessarily universally regard regulation as an unnecessary burden. While some specific requirements and regulations are onerous (particularly so if others are seen to avoid compliance), many interactions are seen as part and parcel of running a business. These businesses believe they operate on trust, respect, deep knowledge and stable personal relationships with their customers and other associations—this is lacking in their relationship with government. The cumulative impact of government attitudes and requirements on businesses and intermediaries is underestimated, not understood or may not be considered significant by much of the public sector.

### Intermediaries

Intermediaries—especially industry and professional—package and translate information from all levels of government relevant to their

members. They are a vital connector. Intermediaries, whether informal (such as friends or other business colleagues) or formal (such as industry associations) are most critical to interactions at times of change or as insurance against ignorance of specific regulatory change and its implications. Consultation processes often fail all parties for reasons such as too little time, lack of clarity of scope and suspicion that the result is pre-determined.

### Public servants

Public servants are aware of many of the issues but feel unable to fix them. Public servants may experience a conflict in expectations between the role of compliance enforcer and industry partner. At times, the public sector finds it difficult to deal with its own red tape, impersonal relationships, lack of information sharing and its complex operating environment. As a result, creativity is often directed to work-arounds. Public sector agencies have already introduced or are administering a number of formal and informal initiatives that seek to improve business and government interactions. Further improvements from government will likely require breaking siloed or lead agency approaches, as many issues cut across agency responsibilities or are at the intersection of multiple agencies or jurisdictions.

<sup>19</sup> DesignGov 2013, *Business and Government Interactions Project*, DesignGov, viewed 19 September 2014, <<https://design.govspace.gov.au/doing/projects/business-and-government-interactions-project>>.

The first stage of the project (completed in September 2013) involved understanding the problem and key issues and then conceiving of them in a new way. The second stage (completed in December 2013) focused on testing concepts that could reveal further insights into business and government interactions, and shape practical options to dramatically improve these interactions.

The second stage used a design-led approach to identify five concepts that might be prototyped to deliver improvements in business and government interactions, along with number of action areas for individual agencies to consider. It was anticipated that by improving the quality of the interaction between business and government there would be a reduction in frustration, wasted effort and inefficiencies leading to better engagement, reduced misunderstanding and better outcomes for government, businesses and the community at large. These five proposed concepts are shown in Figure 7.2.

**Figure 7.2.** DesignGov: Co-creating practical solutions to improve interactions between business and government —a framework for action

Facet of interaction	Identified problem	Proposed prototype
<b>Understand me and my context</b>	The context for interactions between business and government keeps changing	<b>Emerging issues detection</b> A systemic approach for sharing emerging issues that might have relevance for business and government interactions, either generally or specifically
<b>Help me find out what I need to know</b>	Finding meaningful answers is hard	<b>Peer-to-peer crowd-support platform</b> Platform where people can ask questions and provide answers about navigating government and government processes.
<b>Before making decisions recognise my experiences, my skills and my needs</b>	Businesses perceive consultation as 'nonsultation' and engagement as limited	<b>OneConsultation.gov.au</b> A single place for conducting consultations, supplemented by a suite of consultation and engagement tools and options to suit a variety of stakeholder and agency needs
<b>Work with me to unravel problems</b>	There is a lack of clear channels for resolving specific problems that span agencies and jurisdictions, and that affect business	<b>Fix-it squads</b> A form of tiger team made up of seconded public servants from relevant agencies with responsibilities relating to a specific problem area identified by business and agreed by government, charged with developing options for resolving the issue
<b>Treat me with respect and consideration</b>	The preconditions for high standard service provision in the APS are not consistently available	<b>Service by design</b> A common framework of service design principles and customer service infrastructure for trial and implementation

Source: Adapted from DesignGov 2013, *Co-creating practical solutions to improve interactions between business and government*, Commonwealth of Australia, Canberra.

DesignGov tested the idea of design 'hubs' connecting existing APS design capability and expertise. These hubs would be used by agencies to access current practice in design-related methodologies. The business and government interaction project demonstrates how design thinking can be applied to a complex problem spanning multiple agencies and jurisdictions.

## Crowdsourcing

Some open innovation approaches rely on crowdsourcing, which has been described as a way to ‘leverage the collective intelligence of online communities to serve business goals, improve public participation in governance, design products and solve problems’.<sup>20</sup> Prominent crowdsourcing activities are the contributions made to Wikipedia and the development of open source software (for example Linux). The key principle of crowdsourcing is participation through input with the objective of reaching a large and diverse pool of people.

Public sector outsourcing activities are increasingly common. The first recorded example is from 2007 when the New Zealand Police Commissioner put its 1958 Police Act online as a wiki and invited people to edit it.<sup>21</sup> The US Patent and Trademark Office is using crowdsourcing to evaluate pending patents to reduce the number of poor quality patents and subsequent lawsuits. Finland is soliciting input from citizens online to develop new laws.<sup>22</sup> It has been reported that the California Probate Code will be the first instance of legislation being purely crowdsourced. The proposed changes will be created through an online platform similar to Wikipedia.<sup>23</sup>

### National Library of Australia: Trove

**November 2014 marks the fifth anniversary of the launch of Trove, a national discovery service built and managed by the National Library of Australia. Trove provides access to the holdings of more than 1,000 Australian libraries, archives, museums, galleries, government agencies, and universities, as well as more than 13 million pages of digitised Australian newspapers. Trove has gained significant traction in the Australian community, with more than 22 million unique visitors in 2013–14. Trove’s digitised newspaper content accounts for 80% of service use.**

Microfilmed newspapers are digitised by external contractors, who also process the resulting images, applying Optical Character Recognition (OCR) to generate text from them. OCR accuracy depends on the quality of the original newspapers and text

rendered from images is therefore imperfect, reducing search accuracy. The Library developed a world-leading crowd-sourced approach to correcting this imperfect text. Its aim was to invite the public to assist with a task too large for the Library and to improve the Trove discovery experience for all by improving search accuracy.

Trove allows volunteers to simultaneously view the image of a digitised article and the text resulting from OCR processes. Volunteers spotting errors ‘fix this text’ using a simple online tool. The Library intentionally took a light approach to this activity. Volunteers are not required to register, but gain additional benefits if they do so, including a running tally of lines corrected and a place in the Trove Hall of Fame. Text-correctors communicate with each other through the Trove forum, and have collectively

<sup>20</sup> Brabham, D 2013, *Crowdsourcing*, MIT Press, Cambridge, MA, p. 14.

<sup>21</sup> Furnas, A 2012, *Can We Harness the Internet to Collaboratively Write Better Laws?*, The Atlantic, Washington, DC, viewed 22 September 2014, <<http://www.theatlantic.com/technology/archive/2012/02/can-we-harness-the-internet-to-collaboratively-write-better-laws/253445>>.

<sup>22</sup> Charalabidis, Y, Triantafillou, A, Karkaletsis, V & Loukis, E 2012, ‘Public policy formulation through non moderated crowdsourcing in social media’, in E Tambouris, A Macintosh & Ø Sæbo (eds), *Electronic Participation*, vol. 7444, Springer Berlin, Heidelberg, pp. 156–169; Clark, BY & Logan, J 2011, *A Government of the People: How Crowdsourcing Can Transform Government*, ResearchGate, Cambridge, MA, viewed 22 September 2014, <<http://www.researchgate.net/publication/228159911>>.

<sup>23</sup> Hickey, K 2014, *Wiki to crowdsource changes to Calif. probate code*, GCN, Vienna, VA, viewed 22 September 2014, <<http://gcn.com/articles/2014/01/21/crowdsource-probate-bill.aspx>>.

developed a set of guidelines addressing the many issues encountered with newspaper text dating back to the 1803 *Sydney Gazette*. Text correction activity occurs 24 hours a day, 365 days a year. A typical day would see some 100,000 lines of text corrected by volunteers working in their own homes and offices. Instances of user misbehaviour are extremely rare, and the volunteer community is quick to report such issues to Library employees.

At the end of August 2014, more than 132 million lines of newspaper text had been corrected, significantly improving searchability of the newspaper corpus. This effort is the equivalent of 353 work years, has been valued at more than \$23 million, and far exceeds any expectations the Library had about take-up of this volunteer opportunity. Text correctors choose their own work, and have adopted many approaches to the task: some correct all articles relevant to their family history; some choose specific topics, time periods or events; some groups have set themselves targets such as fully correcting their local newspaper. Academic research projects have tasked volunteers with particular projects. For example, the

Eureka prize-winning South Eastern Australian Recent Climate History project encouraged digital volunteers to find and correct articles relating to 19<sup>th</sup> century weather conditions.

Text correctors tell the Library that text correcting is easy, relaxing, addictive, gives them a strong sense of giving back to the community, and allows them to express their gratitude for a service that has revolutionised their access to this important documentary heritage. A number of Trove's top text correctors are retired, and say they regard Trove as their 'work' and a way to keep their minds active in retirement.

For the Library, this crowd-sourced activity has assisted with a task beyond the Library's resourcing capacity. More importantly, the programme has built a new, large and dedicated audience keen to support the Library and acts to promote the Library's collections, services and mission. The programme has also allowed the Library to reach millions of Australians who may never visit the Library in person, but who now know they have a National Library, and a national collection that belongs to them.

## Capability Reviews

An element of the APS Capability Review model is 'Innovative Delivery'. More specifically, Capability Reviews assess how well agencies support and incentivise innovation enterprise wide; effectively manage risk; and implement and evaluate new ideas linked to core business.

The Capability Reviews undertaken to date identified many discrete pockets of innovation across the APS. These often relate to service delivery and data collection and analysis. Capability Review reports frequently comment on the culture of agencies to promote innovation, their ability to balance innovation with risk and the existence of formal frameworks and processes that support the delivery of innovative solutions agency-wide.

In terms of results, reviews of the Department of the Prime Minister and Cabinet, the Australian Bureau of Statistics and the then Department of Regional Australia, Local Government, Arts and Sport rated innovation strongly. Another 12 agencies were assessed as well placed and six as development areas. In response to review findings, agencies are implementing various solutions. This includes establishing reward and recognition programmes to encourage and promote employee innovation, frameworks and processes to prioritise, fund and evaluate initiatives, as well as appointing leaders as innovation champions.

## The Australian Taxation Office: myTax

**The Australian Taxation Office (ATO) has focused efforts on providing better online services with easier, quicker tax and super services now just a click away.**

This year the ATO made lodging online even easier with the launch of myTax in July 2014—a new online option for 1.4 million people with straightforward tax affairs. People can access myTax on their computer or, for the first time, their mobile device, including smart phones and tablets.

myTax does much of the hard work for people by prefilling their tax return. It is then just a matter of reviewing the information, adding missing details and hitting 'submit'. It is the fastest, most convenient way to lodge. Not only is lodging online easier and quicker, people can track their lodged tax return,

update contact details and check their superannuation online.

By the end of 2014 it is expected that about three million Australians will have linked their new myGov account (the one-stop government services website) to the ATO to manage their tax and superannuation affairs online. Feedback has been positive about the ease and speed of linking a myGov account to the ATO.

In another break with tradition, the ATO, in partnership with the Department of Human Services, opened the first digital myGov shopfront in Brisbane's central business district in June 2014.

The new shopfront, which has been well received, helps people transition to digital services and enables access to myGov.

## Employee views on innovation in the APS

High-quality human capital is a fundamental component of an effective innovation system. A skilled and engaged workforce provides APS agencies with the capability to identify and apply relevant knowledge. In June 2011, the APS Innovation Action Plan was launched as a platform to build an innovative culture in the APS.<sup>24</sup> The plan acknowledges that harnessing the innovative potential of the APS and the community is critical to successful delivery. It sets out the principles and structures for achieving this by focusing on four action areas:

- developing an innovation consciousness in the APS
- building innovation capacity
- leveraging the power of co-creation
- strengthening leadership so there is the courage to innovate at all levels.

This section examines the workplace climate for innovation in the APS. Research routinely cites workplace climate as important to organisational innovation.<sup>25</sup> While there are many conflicting definitions of workplace climate, the most widely agreed tend to focus on climate as a set of shared perceptions regarding the policies, practices and procedures that an organisation rewards, supports and expects.<sup>26</sup> Chapter 5 of this report demonstrates the

<sup>24</sup> Department of Innovation, Industry, Science and Research 2011, *APS Innovation Action Plan*, Commonwealth of Australia, Canberra, viewed 22 September 2014, <<http://www.industry.gov.au/innovation/publicsectorinnovation>>.

<sup>25</sup> King, N & Anderson, N 1995, *Innovation and Change in Organisations*, Routledge, London; Rogers, E 1995, *Diffusion of Innovations*, (4th edn), Free Press, New York; Anderson, N & West, M 1998, 'Measuring climate for work group innovation: development and validation of the team climate inventory', *Journal of Organizational Behavior*, vol. 19, no. 3, pp. 235–258.

<sup>26</sup> Schneider, B & Reichers, AE 1983, 'On the etiology of climates', *Personnel Psychology*, vol. 36, no. 1, pp. 19–39.

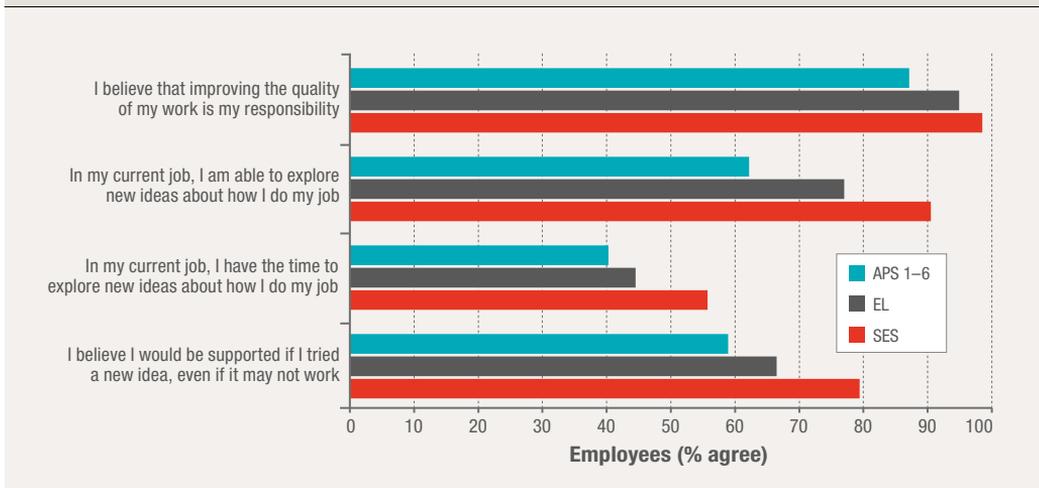
positive relationship between two leadership behaviours and the four areas of organisational performance culture measured in the APS; significantly, the largest impact was on the innovation component of performance culture.

## An employee posture toward openness, collaboration and innovation

Using data from the 2014 APS Employee Census (employee census), Figure 7.3 shows employees' personal attitudes towards innovation. Overall, 90% of employees felt it was their personal responsibility to improve the quality of their work.

**Figure 7.3.** Employee perceptions of innovation in the workplace by classification, 2014

Source: Employee census



In 2014, 46% of employees reported their work group had implemented some form of innovation in the previous 12 months. Table 7.1 shows that APS employees considered the most significant innovation implemented by their work group related to process. Another 50% of APS employees reported the most significant innovation implemented by their workgroup in the 12 months before the employee census affected their products or outcomes they produced.

**Table 7.1.** Employee perceptions of the most significant type of innovation implemented in the last 12 months, 2014

Source: Employee census

Parts of work affected by innovation	Employees (%)
Process	75
Products/Outcomes	50
Communications	31
Policy	21

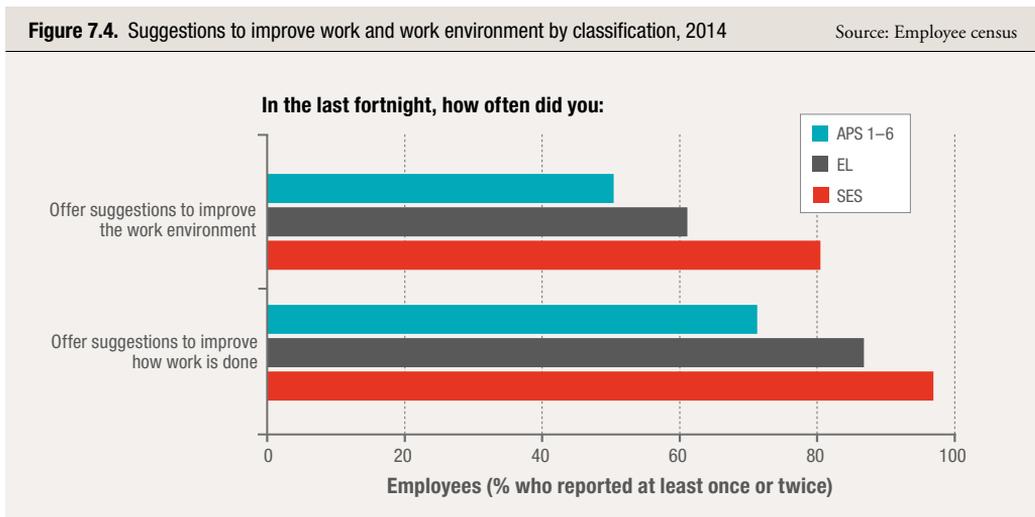
Fifty-one per cent of employees believed there were barriers to innovation in their agency. Interestingly, the perception that there are barriers to innovation is higher among Executive Level (EL) employees (60%) and Senior Executive Service (SES) employees (58%) than APS 1–6 employees (47%).

The majority of employees at all levels felt they receive support for innovation, however, positive perceptions of innovation increased with classification. While most employees perceive there is support for innovation in the workplace less than half of non-SES employees felt they had the time to explore new ideas about how to do their job.

APS employees report feeling supported for being innovative. Overall, Figure 7.4 shows that the majority of employees across all classification groups make suggestions to improve how work is done. There is a tendency for employees at higher classifications to report making suggestions to improve how work is done more frequently. While employees are less likely to report they make suggestions about their work environment, the relationship with classification level is still apparent.

**Figure 7.4.** Suggestions to improve work and work environment by classification, 2014

Source: Employee census



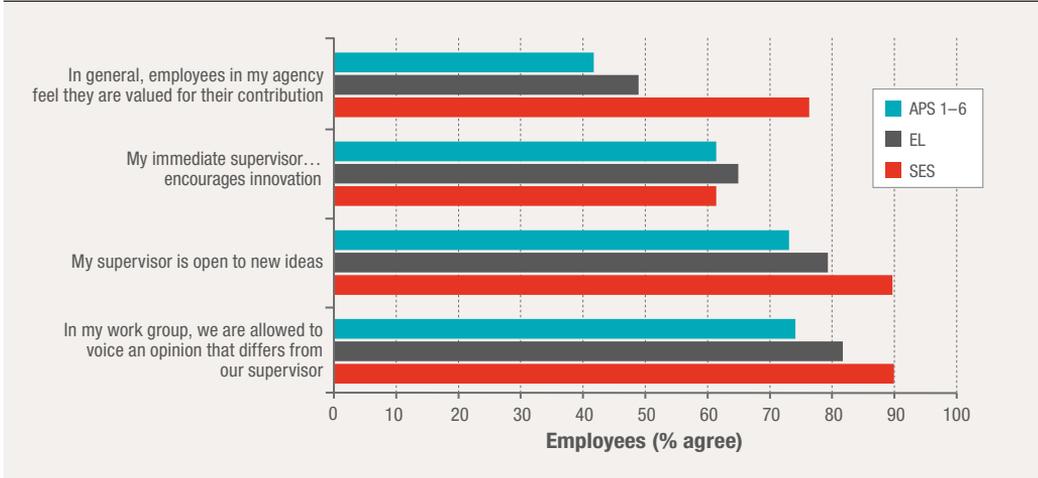
### A management posture toward openness, collaboration and innovation

Figure 7.5 shows that employees were positive regarding their supervisors’ support for innovation, with EL employees slightly more likely than employees at other classifications to be satisfied with the encouragement for innovation provided by their immediate supervisors.

SES employees were the most likely to agree that their agency values employees for their contribution. Likewise, classification was correlated with how positive employees viewed their supervisors’ openness to new ideas and their ability to voice a dissenting opinion, with SES the most positive cohort and APS 1–6 the least.

**Figure 7.5.** Employee perceptions of leadership support for innovation by classification, 2014

Source: Employee census



For employees outside the SES, less than half agreed that different aspects of their agency culture emphasised innovation ‘to a very great extent’ or ‘quite a lot’. SES employees were more positive, although less than half agreed that managers in their agency encouraged innovation.

## Performance culture for innovation

Some businesses are renowned for their ability to create and commercialise innovative new products and services. Apple, 3M and Google are often cited examples with the key to their success a unique culture that has innovation at its core. Chapter 5 of this report (and Appendix 4) outlines the APS Performance Culture Model and its four focus areas—task, innovation, process and people. The model shows that APS employees place high emphasis on the process and task areas of the model while the people and innovation areas show slightly lower scores. Employees who agreed that their immediate supervisor provided regular feedback on performance, however, were more likely to also report that their agency emphasised people and innovation.

In the academic literature, an organisational culture that emphasises innovation has been positively related to organisational performance. Indeed, an innovation climate has been shown to lessen the negative effects of a demanding work environment by enabling employees to develop coping mechanisms or improving work-related processes. To an extent, a culture of innovation acts as a buffer against the negative consequences of high work demands.<sup>27</sup>

This section focuses on the innovation component of the APS Performance Culture Model to examine the extent to which the APS emphasises innovation as a feature of its culture.

<sup>27</sup> King, EB, de Chermont, K, West, M, Dawson, JF & Hebl, MR 2007, ‘How innovation can alleviate negative consequences of demanding work contexts: The influence of climate for innovation on organizational outcomes’, *Journal of Occupational and Organizational Psychology*, vol. 80, no. 4, pp. 631–645.

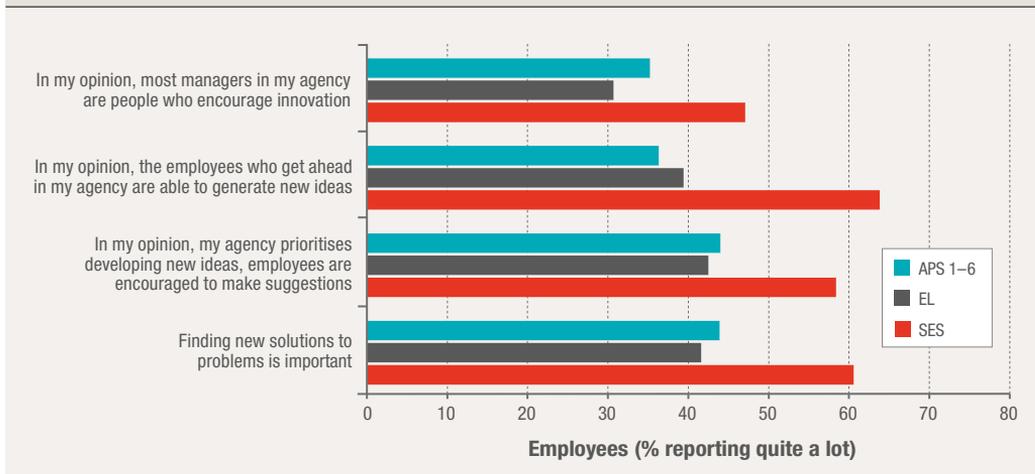
Figure 7.6 lists the four questions from the employee census that cover the innovation component of the APS Performance Culture Model. It is clear there is a considerable difference in the extent to which SES and other employees believe their agency identifies innovation. Less than half of employees at classifications other than SES believe their agency emphasises finding new solutions and encourages employees to make suggestions. Similarly, less than half of APS 1–6 and EL employees see a career benefit in generating new ideas. Overall, less than half of employees at all classifications believe their manager encourages innovation.

These findings suggest that the climate for innovation in the APS is not strong. The difference in the perceptions of SES and other employees suggests that the most senior leaders may be disconnected from the experience of others. In particular, the perceptions of employees at EL classifications are more negative than others on the extent to which their agency encourages and manages innovation.

Given the finding in Chapter 5 in relation to the positive relationship between senior leader behaviour and employee perceptions of the extent to which their agency emphasises innovation, any disconnect is likely to be a considerable barrier to creating a culture of innovation in the APS. It is, however, also likely to be a relatively simple barrier to address.

**Figure 7.6.** APS performance culture—Innovation by classification, 2014

Source: Employee census



## Department of Industry: Innovation Month

**Innovation Month, facilitated by the Department of Industry, is a practical exploration of innovation for members of the public service and its partners. It is about sharing ideas, experiences, techniques and challenges.**

In 2014, Innovation Month centred on the theme 'Empower, Collaborate, Transform' and included a wide range of events from the practical (such as 'Learning About Design') to discussions and workshops (such as the Innovation Summit and GovCamp) to presentations by senior leaders

(including the launch of Innovation Month by the Secretary and the 'Uncomfortable Ideas' speaker series).

Sixteen Australian Government departments and agencies participated in Innovation Month with 11 non-government partners. There were approximately 78 events and some 4,000 attendees.

More information about Innovation Month can be found at: <<https://innovation.govspace.gov.au/tag/innovation-month-2014>>.

## What does this tell us about the state of the service?

There have been calls, from inside and outside the APS, for public servants to be more innovative. This chapter explored the extent to which the APS has a 'culture of innovation', focusing on open innovation and the extent to which the culture and climate of the APS supports 'bottom-up' innovation in its workplaces.

Compared to other nations such as the UK and the US, the APS has taken a variable approach to open government data. The policy infrastructure is in place and efforts to make government data available for re-use are increasing. The APS has also invested in a design and prototyping experimental project—DesignGov. This significant investment provided the space for the APS to test new approaches to problem solving.

Some agencies are continuing to invest in different approaches to engaging the online community, such as through crowdsourcing. This has the potential to assist in accessing the effort, skills and knowledge of the wider community to generate organisational outcomes in non-traditional ways. While not reported in this year's State of the Service report, efforts to use 'behavioural insights' techniques to test new approaches continue to grow.

The use of these innovative approaches and techniques is countered by the view that the majority of APS employees do not believe their workplace emphasises innovation. This is particularly true for those below SES level. A high proportion of employees believe it is their personal responsibility to improve the quality of their work. Less than half, however, believe they have the time to explore new ideas. Some work is still needed to create a culture of innovation in the APS that might more broadly drive bottom-up innovation. Chapter 5 showed a positive relationship between leadership behaviours and perceptions of innovation in the workplace. The greatest positive impact on innovation in the APS may be in closing the gap between the perceptions of EL and SES employees on the extent to which the APS workplace encourages and rewards innovation.