Doing ICT Better

**Improving Outcomes from the
Western Australian Government's Investment in
Information and Communications Technology (ICT)**

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Public Accounts Committee

Doing ICT Better

Improving Outcomes from the Western Australian Government's Investment in Information and Communications Technology (ICT)

Report No. 15

Presented by

Hon. Dr K.D. Hames, MLA

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Chairman's Foreword

The Western Australian Government spends a substantial sum of money on Information and Communications Technology (ICT) each year. Current estimates range between $1 billion and $2 billion.

When contemplating this Inquiry, the Public Accounts Committee (the Committee) was aware that WA had been criticised for its record in government ICT investment. The Government itself has acknowledged that the delivery of ICT services has not always been as efficient and effective as it might have been. The Auditor General has also raised regular concerns, describing the public sector's performance in this area as 'patchy' for the entirety of his term.

The Committee therefore resolved to undertake this Inquiry with a view to determining how the WA public sector could obtain better outcomes from the planning and management of its (ICT) requirements.

Better outcomes in this context include reducing the cost and improving the timeliness of public sector ICT projects and programs. Better outcomes also involve the adoption of more innovative and customer-focused ICT solutions that allow governments to deliver services that are more accessible and responsive to consumer needs in an increasingly digital age.

The pursuit of these outcomes is a complex and long-standing policy challenge that has confronted governments in Australia and internationally for much of the twenty-first century. The challenge has become more pressing in recent years, as cloud-based technologies have emerged offering governments a cheaper way to acquire many of their essential ICT products and services. Having seen other Australian jurisdictions respond to this challenge, WA has now embarked on its own sweeping program of relevant reforms.

The Government's decision to establish a Government of Western Australia Office of the Government Chief Information Officer (WAGCIO) has been a pivotal development. This Office, which commenced operation in July 2015, is headed by Mr Giles Nunis, who has been appointed WA's first whole-of-government Chief Information Officer.

The early work of Mr Nunis and his team has already been recognised by the authoritative government ICT analytical firm *Intermedium*. In its latest evaluation of digital transformation across Australia's federal, state and territory jurisdictions, *Intermedium* has confirmed that WA has shown the greatest rate of progress over the last 12 months. One of the key initiatives recognised by *Intermedium* is the release of *Digital* WA, the State's first sector-wide ICT Strategy.

The Committee has learned that the establishment of whole-of-government chief information officer positions and the development of ICT strategies has been a feature of nearby jurisdictions that are currently recognised as ICT reform leaders.

With this in mind, the Committee has sought to use this Inquiry to gather insights from these, and other, leading jurisdictions to complement the early work of the WAGCIO.

One of the Committee's first observations relates to the ongoing sustainability of the WAGCIO in its current form. Funding for the Office is yet to be confirmed beyond the 2017-2018 financial year and Mr Nunis has a comparatively small number of staff.

As it stands, the highly successful office of the New Zealand Government Chief Information Officer operates with a staff of approximately 80 people across at least five business units. The Queensland Government Chief Information Office operates with a staff of approximately 50 across six business units.

In contrast, Mr Nunis, whose team is planning to undertake many similar functions, currently operates with 15 permanent staff across four business units. Accordingly, the Committee urges the Government to consider the potential requirement for greater resourcing of the WAGCIO as the State's reform program gathers pace.

Throughout this report, the Committee looks at some of the key initiatives that are being rolled out by the WAGCIO. These include the establishment of a ten-member Directors General ICT Council that is chaired by Mr Nunis. Such bodies are used in other jurisdictions to build the knowledge base of senior public sector leaders and cultivate their attitudes regarding the potential of ICT as an enabler of better business solutions. The Committee welcomes this initiative and believes it is important to build expertise and support among this cohort in order to drive the 35 implementation initiatives outlined in *Digital* WA.

Critically, the WAGCIO is also looking to improve the standard of governance structures agencies have in place to oversee ICT expenditure. This is an area of vulnerability that has been acknowledged and addressed in other jurisdictions.

The Committee has made some recommendations to further enhance governance structures in Western Australia (WA). The first of these calls for greater use of Gateway reviews for ICT investments valued at over $10 million.

The Committee has also recommended that agency ICT strategic plans and investment proposals be presented to Mr Nunis for review. New Zealand uses a similar process to provide its Ministers and Directors General with greater confidence that such documents are aligned to business needs and are properly thought through.

The most profound reform currently taking place is the GovNext-ICT Program. Under GovNext-ICT, the WAGCIO will soon award three prime contracts for the provision of a range of standardised products and services via cloud-based technologies.

The whole-of-government commercial framework established within GovNext-ICT is designed to enable agencies to manage their ICT requirements in a more dynamic way, by paying only for what they use at any given time. This procurement method, known by the term "as-a-service", is emerging as a cheaper and more efficient alternative to the traditional approach of owning and operating ICT assets. A similar approach has been adopted in New Zealand and has realised at least NZD$250 million in savings.

Having been briefed on the New Zealand model, the Committee supports the concept of GovNext-ICT and believes it may offer scope to lower the cost and improve the management of ICT across the WA public sector. However, with the value of the contracts potentially in the order of $3 billion, it is critical that a rigorous portfolio management process is put in place. In this respect, the Committee has urged the WAGCIO to examine the operations of the New Zealand Government Chief Information Officer's Commercial Strategy and Delivery Team.

Given the magnitude of the expenditure linked to GovNext-ICT, the Committee has also written to the Auditor General asking him to consider undertaking an audit in 2017 to ensure that the program has been implemented as intended.

While the need for sector-wide reform and strategic guidance was overdue, I believe that the suite of initiatives the WAGCIO plans to implement bodes well for future ICT investment in WA. I also believe that the findings and recommendations in this report will assist the WAGCIO with its important program of work. As such, I encourage the Government to make every effort to provide a response to the Committee's recommendations before the 39th session of Parliament comes to an end.

Having joined the Committee late in the Inquiry process, I would like to commend my fellow members for the spirit in which they have worked to guide me through what is an incredibly complex area of public policy.

While the report is also unavoidably complex in parts, it offers a solid base for committees in the next Parliament to monitor and assess the comprehensive ICT reform agenda that is now underway.

HON DR K.D. HAMES, MLA
CHAIRMAN

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Executive Summary

The Western Australian Government currently spends between $1 billion and $2 billion per year on its Information and Communications Technology (ICT) requirements. As the title of this report indicates, the Public Accounts Committee (the Committee) has sought to inquire into and report on how government agencies can improve on the outcomes that arise from this expenditure.

ICT investment represents a policy challenge for most governments. On the one hand, ICT offers governments the potential to innovate in ways that can improve the quality, responsiveness, accessibility, and cost-effectiveness of their services in an increasingly digital age. However, there are pitfalls that can come with managing ICT investments. Indeed, the public sector landscape here, and in other jurisdictions, is littered with projects or programs that have run over time, over budget, and have failed to deliver their intended benefits.

While these problems are not unique to Western Australia (WA), the reality is that this State has been slower than many other jurisdictions to look at the problem of how to unlock the potential of ICT while avoiding the pitfalls common to ICT investment.

It was with a view to helping both the current and future governments in WA deal with this long-standing policy challenge that the Committee decided to undertake this Inquiry.

The Committee's decision to inquire coincided with the announcement that a Government of Western Australia Office of the Government Chief Information Officer (WAGCIO) would be established. The WAGCIO came into operation on 1 July 2015 and has been given responsibility for a sweeping program of ICT reform, which includes improving the outcomes associated with ICT investment.

Having noted that most other Australian jurisdictions (and New Zealand) had already established similar positions, the Committee was supportive of the decision to establish the WAGCIO. As such, it decided to use this Inquiry to see what insights could be drawn from the experiences of these counterpart offices in an attempt to complement the early work of the WAGCIO.

The Committee has also used the Inquiry to inform the Parliament of measures that might be adopted to improve the capacity of WA's public sector agencies to deliver innovative ICT solutions in a more timely and cost-effective manner.

Following a brief introductory chapter, the remainder of the report is presented in three parts.

In the first of these parts, **Chapter Two** provides a detailed summary of the changing nature of government attitudes towards ICT investment across multiple Australian and international jurisdictions.

Under traditional approaches, governments have sought to own and operate ICT assets and have tended to operate in silos when procuring from the market. When contracts have been established, the overarching focus has often been on cost rather than linking an ICT solution to the realisation of a particular benefit or business outcome.

This approach has proven to be increasingly problematic for governments, as it entails high upfront capital costs for the purchase, maintenance, and replacement of ICT assets. With agencies operating independently of each other, there has also been a tendency to duplicate ICT assets across government. A further problem arises from traditional contracts, which often lock agencies in for set periods and limit the extent to which new technologies can be adopted to improve service delivery.

With technologies evolving rapidly, many governments have embarked on a fundamental rethink of their approach to ICT. This has been underpinned by the realisation that ICT assets should not be considered part of the core business requirements for most government agencies. This changing mindset has been facilitated by the emergence of cloud-based technologies that allow agencies to move away from owning many standardised products and instead pay only for what they use under "as-a-service" contractual arrangements.

Critically, the shift away from owning and operating ICT assets is allowing greater thought to be given to how advances in ICT can be used to deliver better business outcomes. This is a significant development given the increasing number of citizens that are looking to deal with government agencies via digital technologies (e.g. smartphones, internet).

While the mindsets of governments are changing, and more innovative approaches are being pursued, the reality is that implementing ICT solutions remains challenging. The Committee has found that the common factors undermining the successful implementation of ICT solutions in many jurisdictions are generally strategic, cultural, or commercial in nature. Failure to address these problems puts the likely success of any future transformational ICT initiatives at risk.

Given these problems remain evident in WA, the case for ICT reform is compelling. This point has been acknowledged by the WAGCIO, which has reiterated the urgency for reform in WA, lest the State fall further behind the rest of the country (and other international jurisdictions).

In the second part of the report, Chapters Three through Five look at the ways in which the implementation challenges associated with ICT investment can be addressed in

order to produce better and more consistent outcomes. In these chapters, the Committee has focused on recent developments in WA in the context of work already undertaken by nearby jurisdictions further along the path of reform.

Chapter Three focuses on the importance of establishing whole-of-government strategic ICT leadership roles to guide agencies in a collaborative and coordinated program of reform.

WA was the last Australian state to establish such a position when the WAGCIO commenced operations in July 2015. The WAGCIO has been established to influence and lead effective ICT investment, stabilise ICT costs, deliver an ICT strategy and enhance ICT project outcomes across the sector in collaboration with government agencies and industry. This program of reform is ambitious and similar in scope to programs currently being undertaken in other parts of Australia and New Zealand.

While the Committee supports the concept of the WAGCIO and commends the work the Office has undertaken thus far, it does hold concerns regarding the ongoing sustainability of the Office in its current form. The first concern relates to ongoing funding, with nothing currently provisioned in the Government's forward estimates beyond the 2017-18 financial year. The second concern relates to the number of staff within the WAGCIO. The WAGCIO is currently operating with a permanent staff of 15 across four business units. By comparison, the New Zealand and Queensland equivalent offices—which are undertaking many similar functions to those proposed for the WAGCIO—have a staff of 80 and 50 respectively.

The Committee has included two recommendations aimed at providing clarity on these issues. One of these recommendations urges the WAGCIO to appoint a Government Stakeholder Manager (similar to the one in place in New Zealand) to ensure that all WA Ministers and agencies are kept abreast of the WAGCIO's important reform agenda.

This chapter also examines WA's first whole-of-government ICT strategy, *Digital* WA, which was released by the WAGCIO in May 2016. The Committee has found that this document compares reasonably well with similar strategies that have preceded it throughout Australia and New Zealand.

It is encouraging to see that this document contains a range of accountability measures, including a set of 35 implementation initiatives. While each of these initiatives has only been assigned high-level and indicative timeframes, they nonetheless provide a means by which the progress of *Digital* WA can be measured. The document also includes seven key performance indicators (KPIs), one of which seeks a minimum 10 per cent overall reduction in the annual cost of delivering ICT services across the public sector by 2020.

The Committee welcomes the strategic direction offered in *Digital* WA and has made some recommendations aimed at further enhancing the Strategy's accountability measures. These include establishing an accurate benchmark figure for current ICT expenditure. The urgency of this benchmarking exercise is underpinned by the wide variances in current estimates (between $1 and $2 billion), which make it difficult to accurately quantify the savings *Digital* WA is expected to derive. The Committee would also like to see an additional efficiency-based KPI to measure service delivery improvements attributable to ICT investment.

Having discussed the importance of strategic ICT leadership roles, the Committee in **Chapter Four** moves on to look at the need to have Ministers and agency heads invested in any whole-of-government reform programs that are developed.

Evidence obtained from briefings in New South Wales (NSW) and New Zealand suggests that ICT reforms are more effective when engaged leaders within the Executive branch of government drive the changes and ensure that agency heads respond appropriately.

To promote such outcomes in WA, the Committee has recommended the establishment of a Cabinet sub-committee for ICT investment, based on a similar concept it observed in New Zealand.

The Committee has further observed that agency heads in several Australian jurisdictions and New Zealand have been integrated into whole-of-government reform programs through the establishment of collaborative bodies where their input is actively sought. Such bodies are seen to provide a vehicle for knowledge-sharing and expertise building among this cohort, many of whom have often been reluctant to become actively involved in matters relating to ICT investment.

The WAGCIO has recognised the need for a similar group in WA having acted quickly to establish a ten-member Directors General ICT Council and a supporting CIO Advisory Committee. Both bodies are chaired by the WAGCIO's Chief Executive Officer, Mr Giles Nunis.

The Committee supports this initiative and believes it will be pivotal to delivering better outcomes from government ICT investment. A recommendation has been included that urges the Directors General ICT Council to take a pro-active approach to ensuring that all agencies think more strategically in their approach to ICT.

Chapter Five considers how outcomes can be improved by ensuring that ICT investments are overseen by robust governance structures, both at an agency and a whole-of-government level. The evidence received has pointed to a lack of appropriate governance structures as one of the key commercial inhibitors to the successful delivery of ICT projects and programs.

It is at an individual agency level where quality governance structures are paramount. Ideally, such structures should vest senior non-ICT stakeholders with ultimate oversight, monitoring, and decision-making responsibility for ICT investments.

Ultimately, the Committee has found that the standard of governance structures across the WA public sector is variable. While *Digital* WA includes some initiatives aimed at lifting overall governance standards across the sector, the Committee has nonetheless recommended that the WAGCIO play a greater role in helping agencies to improve in this area. The primary vehicle by which this may be achieved is a planned agency benchmarking survey that the WAGCIO is yet to undertake.

The Committee has urged the WAGCIO to conduct this survey urgently and to use the results to help Directors General or CEOs devise tailored programs to improve internal process around governance. Survey results could also be used to inform Ministers of the standards of governance within their respective agencies.

In this chapter the Committee also examines Gateway reviews, a valuable tool that can help agencies improve their oversight of major ICT expenditure. Under a Gateway review process, agencies engage an independent panel of specialists to conduct short, intensive reviews at any of six critical decision-points, or gates, of a particular project or program.

Gateway reviews were introduced in WA in 2008 and the WA Department of Finance (Finance) operates a Gateway Unit that can manage the review process and help agencies improve their performance around procurement. Unlike other jurisdictions observed by the Committee, WA has no form of mandate around the use of Gateways. Instead, Finance currently recommends they be undertaken for ICT projects and programs valued at over $10 million.

Finance has described the Gateway review as a 'proven, cost-effective assurance process' for major ICT and non-ICT projects. Despite this, Finance has confirmed that Gateways are underutilised for ICT projects and programs in WA, when compared with other Australian jurisdictions.

In the final section of this chapter, the Committee looks at the role that whole-of-government chief information officers can play in the oversight of agency ICT activities. The Committee has found that the WAGCIO's functions in this area appear to be narrower in scope to those of similar offices in Queensland and New Zealand.

The WAGCIO advised the Committee that it would 'provide oversight of key strategic projects and intervene to stabilise cost and optimise outcomes', but the extent of these intervention powers remains unclear. As a result, the Committee has recommended the WAGCIO provide clarity on this issue. The Committee has also asked Treasury to

formalise a process whereby the WAGCIO's input is sought on agency ICT strategic plans and investment proposals.

In the final part of the report, Chapters Six through Nine explore the innovative solutions that are starting to proliferate, facilitated in no small part by the emergence of cloud-computing technologies. **Chapter Six** focuses on the innovative procurement approach to acquiring ICT needs under as-a-service pricing models (also known as consumption-based pricing).

Under this model buyers are only charged for how much of a particular product or service they consume from an external supplier. This model is emerging as a cheaper and more efficient alternative to traditional procurement approaches of owning and operating ICT assets.

New Zealand is one of the leading jurisdictions in this field with the New Zealand Government Chief Information Officer's Commercial Strategy and Delivery Team managing 14 'common capability' contracts. These contracts offer a wide range of cloud-based and conventional ICT goods and services and are now used by 120 agencies (including local government entities). Collectively, the major common capability contracts have thus far generated more than NZD$250 million in savings by way of future costs avoided.

Notably, the WAGCIO is encouraging a move towards this new procurement model via the initiation of the GovNext-ICT Program (GovNext-ICT) that was announced in August 2015. Under this program, the WAGCIO is looking to award two to three head contracts for the provision of a consumption-based pricing model for compute, storage, and cloud computing services as well as a unified government communications network.

Nine agencies, representing 80 per cent of the Government's ICT expenditure, have committed to transition to GovNext-ICT. This will see them move away from their current reliance upon Common Use Arrangements (CUAs) to deliver commoditised ICT goods and services. Finance has estimated that the total value of the GovNext-ICT contracts could reach $3 billion.

With the head contracts soon to be finalised, the WAGCIO anticipates that GovNext-ICT will generate significant savings and improve the capacity of agencies to take advantage of new technologies. It is also expected to provide greater network and systems operability across the public sector.

The Committee supports the concept of GovNext-ICT and sees it as a positive step that will help WA government agencies manage their ICT requirements in a more dynamic way than is currently possible under the CUA framework. It is particularly encouraging to note that GovNext-ICT's proposed contractual structures feature several elements similar to the common capability contracts in place in New Zealand.

However, given the magnitude of the potential expenditure involved, the Committee has chosen to include a recommendation that aims to ensure that all commercial arrangements relating to GovNext-ICT are properly managed. In addition, the Committee has written to the Auditor General asking him to consider conducting an audit in 2017 to ensure that the program is implemented as intended.

Chapter Seven is dedicated to exploring cloud computing in greater detail. This chapter defines the essential characteristics of cloud computing and explains its various service and deployment models.

The perceived benefits and risks of cloud computing are also examined. Cited benefits include a reduction in capital and operational expenditure; flexibility with matching business needs to suit demands; and a greater focus on delivering core services. While the most cited challenge has been the cultural resistance to change within organisations, other perceived risks and challenges include security of data and the potential for delayed cost-savings if legacy systems are not decommissioned.

This chapter includes a summary of activities from leading jurisdictions with New Zealand again featuring prominently. The Committee has been advised that the New Zealand Government was saving $70 million per year on its operational budget since transitioning to cloud-based as-a-service consumption models.

The Committee also reports on notable developments from Australian jurisdictions. A common feature of these jurisdictions is their adoption of whole-of-government policies that promote a "cloud-first" approach to ICT procurement.

The WAGCIO has claimed that with appropriate policy direction and central guidance, cloud computing options—such as those proposed in GovNext-ICT—could save the WA Government 10 to 50 per cent on its current ICT expenditure. This policy direction has now been established with the release of WA's Whole of Government Cloud Policy (the Cloud Policy) in May 2016. Interestingly, this policy has not adopted the cloud-first mantra used in several other jurisdictions. Instead, it encourages agencies to consume cloud-based offerings wherever they will deliver value and are fit for purpose.

While acknowledging the work being undertaken by the WAGCIO to promote greater use of cloud technologies, the Committee would nonetheless like to see more persuasive language encouraging their adoption. Therefore, it has called on the WAGCIO to amend the Cloud Policy to include a statement requiring agencies to adopt a cloud-first approach when contemplating future ICT investments.

Chapter Eight reports on how governments are using ICT solutions to develop "one-stop shop" approaches to service delivery.

The purpose of the one-stop shop approach is to enable customers to interact with government through a single point of contact, thereby removing the need to deal with separate agencies for various informational and transactional requirements.

This chapter refers to several examples of the one-stop shop concept from the United Kingdom, Estonia and several Australian jurisdictions before looking in greater detail at initiatives in operation in New Zealand and NSW.

The Govt.nz website provides a one-stop shop for New Zealand Government information services. Launched in 2014, this website now receives an average of 11,400 visits per day.

In 2013, New Zealand also released a service called 'RealMe login' that is designed to facilitate greater online transactional capability for consumers of government services. Consumers can conduct an even wider range of transactions by establishing a single digital identity (through a vehicle known as 'RealMe verified') that is valid for five years.

Collectively, these initiatives have the New Zealand Government on track to meet its target of having 70 per cent of all customer service transactions completed digitally by November 2017. Work is now being undertaken on a model that will provide customers with a single point of contact for transactional services.

One of the more advanced initiatives is Service NSW. Launched in July 2013, Service NSW delivers more than 800 transactions through one digital service, one phone number and a network of at least 52 physical customer service centres. Importantly, Service NSW has taken what it calls an 'omni-channel' approach to customer service, recognising that numerous customers still wish to interact with government via traditional communication channels (e.g. telephone, mail, face-to-face).

Looking at WA, notwithstanding some innovative work undertaken by a selection of individual agencies, the customer-centric approach to service delivery reflected in the one-stop shop concept is still lacking at a whole-of-government level. This is demonstrated by the fact that there are 450 WA Government websites despite there being only 140 entities across the public sector. Collectively, agencies spend $25 million a year maintaining these websites.

This issue has been identified by the WAGCIO, which plans to establish a Digital Services Portal with the initial pilot expected to be developed by the end of 2016. The portal will include a single point to find government digital services; a single payment gateway; connected systems to allow for multiple agency information exchange; and personalised profiles for individual users. The portal will be enhanced by the development of a Digital Identity Platform to facilitate greater single access transactional capability for businesses and individuals.

The WAGCIO's overarching focus with these initiatives is on establishing a digital environment to encourage more citizens to interact with government online. The Committee does have some concern around this narrow focus and the impact it may have on those consumers that are either unwilling or unable to move away from traditional communication channels. Accordingly, the Committee has recommended that the WAGCIO investigate the viability of developing an omni-channel one-stop shop approach to service delivery, similar to that in place with Service NSW.

Chapter Nine addresses an increasingly popular concept known as open data. Open data involves the opening of access to public sector data, together with approaches to removing restrictions surrounding its use. In this chapter, the Committee identifies the common principles that are applied to define open data and summaries the key benefits and challenges associated with the concept.

Advocates of open data state that its benefits include improved efficiency and operations of public services through the development of innovative, data-driven, evidenced-based solutions to ongoing policy dilemmas. Conversely, the primary concerns about publishing open data relate to the quality of data that is made available, the potential for its misuse, and its impact on privacy.

An examination of other jurisdictions shows that governments are developing open data portals, which allow the public to access all datasets that are made available by participating agencies. These portals are generally accompanied by open data policies that outline the principles regarding the types of data that are to be made available, and the form in which the data is to be released. Evidence suggests that open data provides the greatest potential benefit when it is published in raw form. Raw data is data that has not undergone any form of manipulation before being released.

Governments in Australia and New Zealand are encouraging the use of open data by staging "hackathons", where teams use open data to create apps, design websites, and develop other innovations.

The next step in the evolution of open data is data analytics, where governments establish or fund dedicated expert bodies to use open data to identify and solve policy problems using evidence-based solutions.

WA is now following the lead of other jurisdictions with the recent launch of an open data portal that currently contains 792 data sets from 56 organisations. The WAGCIO also released a Whole of Government Open Data Policy (the Open Data Policy) in June 2015, which is intended to increase productivity and improve service delivery by promoting access to public sector data.

The Committee has noted some ambiguity between the testimony of the WAGCIO and the content of the Open Data Policy regarding the Government's position on whether

public sector data should be made open by default and published in raw form (which is the Committee's preference). In its final recommendation, the Committee has asked the WAGCIO to provide clarity on this matter.

Ministerial Response

In accordance with Standing Order 277(1) of the Standing Orders of the Legislative Assembly, the Public Accounts Committee directs that the Premier; the Minister for Innovation, Finance; the Minister for Lands; and the Treasurer report to the Assembly as to the action, if any, proposed to be taken by the Government with respect to the recommendations of the Committee.

Findings and Recommendations

Finding 1 **Page 20**

While there are some agencies that manage their Information and Communications Technology (ICT) needs well, the Australian Information Industry Association (AIIA) has claimed there is a wide perception among industry participants that Western Australia has been the worst state in Australia for public sector ICT performance for at least the past decade.

Finding 2 **Page 30**

The Government of Western Australia Office of the Government Chief Information Officer (WAGCIO) commenced operations on 1 July 2015. The WAGCIO was established to influence and lead effective ICT investment, stabilise ICT costs, deliver an ICT strategy and enhance ICT project outcomes across the sector in collaboration with government agencies and industry.

Finding 3 **Page 42**

The WAGCIO has been tasked with undertaking a broad and ambitious program of reform, similar in scope to that currently being undertaken in New Zealand and some other parts of Australia.

While the Committee commends the WAGCIO on its efforts to date, it has concerns regarding the ongoing sustainability of the Office in its current form.

Finding 4 **Page 43**

The current budget papers state that the WAGCIO has been established for a period of three years with no further funding included in the forward estimates beyond the 2017-18 financial year. This is despite the fact the Office is responsible for managing a sweeping ICT reform strategy out to at least 2020.

Recommendation 1 **Page 43**

The Minister for Innovation confirm that the Government of Western Australia Office of the Government Chief Information Officer (WAGCIO) will continue operating beyond the 2017-18 financial year.

Finding 5 Page 44

The office of the New Zealand Government Chief Information Officer operates with a staff of approximately 80 people across at least five business units. The Queensland Government Chief Information Office operates with a staff of approximately 50 across six business units.

The WAGCIO, which is undertaking many functions similar to its counterpart offices in these jurisdictions, is currently operating with 15 permanent staff across four business units.

Finding 6 Page 44

The Committee has met with both the New Zealand and Queensland Government Chief Information Office teams and has observed their operational structures. In light of these meetings, the Committee questions whether the WAGCIO, in its current form, will have the required capacity to discharge its many responsibilities in an effective manner going forward.

Finding 7 Page 47

The New Zealand Government Chief Information Officer has established two business units whose focus is on maintaining communication with key government stakeholders regarding the ongoing delivery of New Zealand's whole-of-government ICT reforms.

The Relationship Management team helps agencies understand the New Zealand Government Chief Information Officer's leadership role and what it means for their operations, while the Government Stakeholder Manager has a team of permanent liaison officers who continually interact with Ministers, agency chiefs, and the head of the public service.

Recommendation 2 Page 47

The WAGCIO consider the organisational structure in place within its counterpart office in New Zealand when determining future staffing requirements. At a minimum, the Committee strongly encourages the establishment of a Government Stakeholder Management team to ensure that all Ministers and agencies are continually kept abreast of the WAGCIO's important reform agenda.

Finding 8 Page 48

The Committee acknowledges the WAGCIO team for its work in compiling *Digital* WA: *Western Australian Government Information and Communications Technology (ICT) Strategy 2016 – 2020* (*Digital* WA). The document largely addresses what agencies and the ICT industry had recognised was a lack of strategic direction from current and past governments around ICT investment in Western Australia.

Finding 9   Page 49

The Committee believes that *Digital* WA compares reasonably well with the other government ICT strategies that have preceded it throughout Australia and New Zealand. The WAGCIO has compiled this strategy in consultation with many of the largest government agencies, through a Directors General ICT Council, and has also sought the input of groups representing the ICT industry.

A similarly collaborative approach has been undertaken in other jurisdictions (including New Zealand and Queensland) and this should increase the level of support for *Digital* WA among key stakeholders.

Finding 10   Page 50

Consistent with the approaches observed in other jurisdictions, the WAGCIO has outlined a set of implementation initiatives in *Digital* WA. Each initiative, there are 35 in total, has been assigned a 'high-level and indicative' timeframe by which pilot programs linked to each initiative are expected to have been developed.

Finding 11   Page 51

While *Digital* WA has many similarities with ICT strategies in other jurisdictions observed by the Committee, it does contain two accountability measures that set it apart.

The first is the commitment to establish a publicly accessible ICT Risk Register that will highlight developments across government, or within agencies, that might impact upon the delivery of the reform program outlined in *Digital* WA.

The second is the publication of seven quantifiable KPIs to measure sector-wide performance in meeting the Strategy's primary objectives.

Finding 12   Page 52

Included among *Digital* WA's seven KPIs is a benchmark seeking a minimum 10 per cent overall reduction in the annual cost of delivering current ICT services across the public sector by 2020.

Finding 13   Page 52

The WAGCIO has indicated that it will conduct a baseline measurement exercise over the next 12 months to set the levels from which each of *Digital* WA's KPIs will be assessed.

It is critical that this benchmarking exercise ascertains an accurate figure for annual ICT expenditure across the public sector, as current estimates vary between $1 billion and $2 billion.

Recommendation 3   **Page 52**

As part of its planned baseline measurement exercise, the WAGCIO obtain an accurate figure for the current annual ICT expenditure across the Western Australian public sector.

The WAGCIO should also obtain accurate figures for ICT expenditure at an individual agency level, so that it can identify and work with the agencies having the most difficulty controlling their costs.

Finding 14   **Page 52**

While *Digital* WA contains efficiency KPIs focusing on cost reduction and return on investment from ICT savings, there are no targets relating to improvements in the quality of service delivery.

The introduction of such a KPI would help ensure that *Digital* WA does not inadvertently create a blind focus on ICT savings that might result in poorer outcomes for consumers of government services.

Recommendation 4   **Page 52**

The WAGCIO introduce additional KPIs in *Digital* WA that focus on the quality of services offered as a result of investment in ICT.

Such KPIs might be based around the transactional capacity of the sector as a whole. They could be derived by collecting data from all relevant agencies on the volume of transactions performed through digital channels, the speed with which these transactions are completed, and the level of customer satisfaction with the services offered.

Finding 15   **Page 55**

Recent experiences from New Zealand and New South Wales (NSW) suggest that ICT reforms are more effective when there are engaged leaders within the Executive branch of government driving change and ensuring that agency heads respond appropriately.

Finding 16   **Page 55**

Until 2014, the New Zealand Government operated an ICT Ministers Group to look at large strategic ICT investments and examine project failures. Since 2014, the group has expanded into a broader Investment Ministers Group, which now covers other areas of government expenditure in addition to ICT. The functions of this group include understanding the direction and array of potential investments available and scrutinising investments that are under way with a view to increasing their likelihood of success.

Finding 17   **Page 56**

The Committee acknowledges the early efforts of the Minister for Innovation in promoting the work of the WAGCIO. However, for the WAGCIO to realise its future vision for ICT as outlined in *Digital* WA, it is important that other Ministers are equally invested in the work this office is undertaking.

Recommendation 5   **Page 56**

The Government establish a Cabinet sub-committee for ICT investment based on the concept of the New Zealand Government Investment Ministers Group. The purpose of this sub-Committee should be to allow senior Ministers to meet, both with and independently of the WAGCIO, to improve their awareness of the potential and challenges that ICT presents to their portfolios.

Finding 18   **Page 59**

Other jurisdictions—including Queensland, NSW, and New Zealand—have established governance bodies that give agency heads a high degree of ownership over the direction and implementation of ICT reform across government.

These structures are seen as a way to improve collaboration between agencies in the delivery of ICT solutions while providing an avenue through which agency heads can better comprehend how ICT might be used to improve business outcomes.

Finding 19   **Page 60**

The WAGCIO has recognised the need to up-skill agency heads and integrate them into the whole-of-government ICT reform process, having acted quickly to establish both a Directors General ICT Council and a supporting CIO Advisory Committee. Both groups are chaired by the WAGCIO's Chief Executive Officer and have met four times since September 2015.

Finding 20   **Page 60**

The WAGCIO has advised that the Directors General ICT Council and the CIO Advisory Committee have been established to create a culture of shared experiences and collaborative implementation in ICT delivery.

This is an important development, given WA public sector agencies have been prone to operating in an isolated manner when managing their ICT requirements.

Finding 21   **Page 60**

The WAGCIO has also committed to establishing an ICT Leadership Program to help agency executives and senior managers develop an appropriate understanding of the potential and limitations of current technologies.

Finding 22   **Page 62**

The Committee supports the actions the WAGCIO has taken to establish the Directors General ICT Council and the CIO Advisory Committee. Increasing the level of engagement and expertise among this cohort of the public sector is pivotal to delivering better outcomes in government ICT investment.

Finding 23   **Page 62**

The Directors General ICT Council has ten members including the heads of the Department of Education, the Housing Authority, Landgate, and the Western Australian Police. These agencies are among a small number that the AIIA has recognised for managing the ICT requirements well and taking a strategic approach to aligning ICT investments with intended business outcomes.

Recommendation 6   **Page 62**

The WAGCIO ensure that the Directors General ICT Council takes a proactive approach to improving investment outcomes across the sector by formalising a process that ensures all agencies think more strategically in their approach to ICT.

This process could require all agencies to demonstrate to the Council that their strategic planning documents consider the means by which ICT solutions might be used to achieve or enhance intended business outcomes.

Finding 24   **Page 64**

Evidence taken throughout the Inquiry supports the view that successful outcomes in ICT delivery are dependent upon good governance processes. The principles of good governance require senior leaders to take ownership of ICT investments to ensure that projects or programs are successfully delivered.

Finding 25   **Page 66**

Other jurisdictions, including Queensland and New Zealand, have acknowledged weak governance around ICT investments as an issue that needed to be addressed and have introduced initiatives to facilitate a higher level of ownership from agency heads.

Finding 26   **Page 67**

The standard of governance structures applicable to ICT investment appears to be variable across Western Australia's public sector agencies.

Finding 27   **Page 70**

The Committee notes that *Digital* WA has outlined a variety of initiatives that are aimed at lifting overall governance standards around ICT investment across the Western Australian public sector. While the Committee commends these initiatives, it believes there is scope for more direct involvement from the WAGCIO, and possibly the Department of Finance, to help agencies improve in this area.

Finding 28   **Page 70**

The WAGCIO has not yet been in a position to proceed with its planned annual benchmarking survey of agencies to 'gauge sector-wide progress' on matters relating to ICT delivery.

Recommendation 7   **Page 71**

The WAGCIO and the Department of Finance conduct their proposed first annual agency benchmarking survey as a matter of urgency. This survey should include an audit of governance processes to determine the extent to which senior leadership in each agency is directly involved in the oversight of ICT investment.

Recommendation 8   **Page 71**

The WAGCIO and the Department of Finance use the results of the first benchmarking survey to help Directors General or CEOs devise tailored programs to improve internal processes where required, and to inform Ministers of the current standard of governance around ICT investment within their respective agencies.

Finding 29   **Page 74**

Under a Gateway review process, agencies engage an independent panel of specialists to conduct short, intensive reviews at six critical decision-points, or gates, of a particular project or program.

The Department of Finance has described Gateway reviews as a 'proven, cost-effective assurance process' for major ICT and non-ICT projects.

Finding 30   **Page 74**

Other jurisdictions observed by the Committee have adopted a 'modified Gateway' process, under which the requirements for conducting reviews are determined by the estimated cost and risk associated with a particular ICT project or program.

Finding 31   **Page 77**

Gateway reviews were introduced by the Western Australian Government in 2008. Currently, there is no form of mandate for their use. Instead, reviews are 'recommended' for ICT projects or programs with an investment value greater than $10 million.

Finding 32   **Page 77**

The Department of Finance has advised that the Gateway process 'is under-utilised' for ICT projects and programs in Western Australia, when compared with other Australian jurisdictions.

Finding 33   **Page 77**

The Department of Finance has suggested that the under-utilisation of Gateway reviews for ICT investments is attributable to the fact that agencies 'do not give enough attention to project assurance as part of their project planning or project management.'

Finding 34   **Page 78**

A stronger enforcement of the Gateway review process in Western Australia could lead to better outcomes from the delivery of ICT projects and programs across the public sector.

Recommendation 9   **Page 79**

The Department of Finance introduce a modified Gateway policy that, as its default position, requires agencies to undertake a review at the first (Strategic Assessment) and third (Readiness for Market) gates for any ICT investment proposal worth more than $10 million.

Scope should exist for exemptions from this process, subject to authorisation from an independent authority such as the WAGCIO, the Directors General ICT Council, or the Department of Finance.

Finding 35   **Page 81**

Public ICT project dashboards are gaining popularity as a key transparency and accountability tool for governments.

Queensland was the first Australian jurisdiction to launch an ICT dashboard in 2013.

Finding 36   **Page 82**

The WAGCIO plans to establish an ICT Project Dashboard by the end of 2018. The Committee supports this initiative as a means of improving agency performance and accountability around the delivery of ICT projects.

Finding 37   **Page 85**

The WAGCIO's functions regarding the oversight of agency ICT investments and strategic plans appear to be narrower in scope than those of similar offices in New Zealand and Queensland.

Finding 38 Page 85

In its submission to the Inquiry, the WAGCIO stated that it will 'provide oversight of key strategic projects and intervene to stabilise cost and optimise outcomes.'

In subsequent testimony to the Committee, the WAGCIO implied that such interventions will only take place if it is invited by an agency.

Recommendation 10 Page 85

The WAGCIO make clear to public sector agencies the circumstances under which it will intervene to stabilise costs and optimise the outcomes from ICT investments.

Recommendation 11 Page 87

The Department of Treasury incorporate into its Strategic Asset Management Framework process a formal requirement for the WAGCIO to:

- review and sign-off on agency ICT strategic plans; and

- provide independent advice through Ministers to the Cabinet on ICT investment proposals valued at over $1 million.

Recommendation 12 Page 87

The Department of Finance determine a process by which staff from its Government Procurement unit can be used to help the WAGCIO review strategic ICT plans and investment proposals submitted by agencies for comment.

Finding 39 Page 91

The "as-a-service" (or consumption-based) pricing model is emerging as a cheaper and more efficient alternative to the traditional approach of owning and operating ICT assets.

This new model for procuring ICT is generally, but not exclusively, associated with cloud-based computing solutions and it allows buyers much greater flexibility in managing their ICT needs.

Finding 40 Page 92

The perceived challenges associated with acquiring ICT as-a-service include:

- workforce transition issues that emerge from a business no longer needing as many staff to manage its ICT assets; and

- dealing with the need to decommission any redundant legacy systems.

Finding 41   **Page 93**

Of the jurisdictions examined by the Committee, New Zealand was one of the most advanced in use of as-a-service or consumption-based pricing through its suite of ICT 'common capability' contracts.

Finding 42   **Page 95**

The New Zealand Government Chief Information Officer's Commercial Strategy and Delivery team currently manages 14 common capability contracts offering a wide range of cloud-based and conventional ICT goods and services.

Finding 43   **Page 100**

The New Zealand Government Chief Information Officer's staff have confirmed that more than 120 agencies are now consuming from the ICT common capability contracts.

The New Zealand Treasury has confirmed that the major common capability contracts have thus far generated more than NZD$250 million in savings by way of future costs avoided.

Finding 44   **Page 104**

In August 2015, the WAGCIO initiated the GovNext-ICT Program (GovNext-ICT). Once implemented, it is envisaged that GovNext-ICT will allow agencies to shift from the customary own and operate approach to focus more on consumption-based or as-a-service pricing arrangements for their ICT needs.

Finding 45   **Page 104**

Under GovNext-ICT, the WAGCIO is looking to award five-year contracts, with the option of a five-year extension, to a panel of two to three head contractors for the provision of a consumption based service model for compute, storage, cloud computing, and a unified government communications network for the Western Australian public sector.

Finding 46   **Page 105**

The WAGCIO anticipates that GovNext-ICT will lead to significant savings on ICT, provide agencies with the agility to take advantage of rapid technological advances, and promote greater interoperability of systems and communications networks across the public sector.

Finding 47   **Page 108**

So far, nine agencies have formally committed to transition to the GovNext-ICT commercial framework. These agencies represent 80 per cent of the Western Australian Government's annual ICT expenditure.

Finding 48   **Page 109**

The contractual structures the WAGCIO is proposing under GovNext-ICT will feature several elements similar to the common capability contracts in place in New Zealand. These include:

- A whole-of-government volume commitment to the head contractors.

- Volume price discounts, under which head contractors will lower prices when agreed consumption thresholds are met for a particular product or service.

- A continuous-best price arrangement where a lower price offered to one agency must be offered to all consuming the same product or service.

Finding 49   **Page 109**

The Department of Finance has provided the Committee with correspondence that puts the estimated potential value of the GovNext-ICT Program at as much as $3 billion.

Finding 50   **Page 112**

With a potential value of $3 billion, GovNext-ICT is going to require rigorous and ongoing portfolio management.

Finding 51   **Page 112**

The WAGCIO is looking to establish a dedicated GovNext-ICT Service Broker (GSB) to 'operate, maintain and drive the benefits realisation targeted from the GovNext-ICT Program.' The WAGCIO is planning to have the GSB established by the end of 2016.

Recommendation 13   **Page 112**

The WAGCIO ensure that a properly resourced body, be it the proposed GovNext-ICT Service Broker or something similar, is established promptly to ensure all commercial arrangements relating to the GovNext-ICT Program are properly managed.

When establishing this body the WAGCIO should consider the structure and functions of the New Zealand Government Chief Information Officer's Commercial Strategy and Delivery Team.

Finding 52   **Page 112**

The Committee has written to the to the Auditor General asking him, under the provisions of section 8(b) of the *Auditor General Act 2006* (WA), to consider examining the initial implementation period of GovNext-ICT as part of the forward audit work program for 2017.

Finding 53   **Page 121**

The governments of Estonia and New Zealand stand out as being well-developed in the area of cloud computing.

Finding 54   **Page 123**

New Zealand adopted a cloud-first policy in 2012 to guide a coordinated, whole-of-government adoption of cloud computing.

Finding 55   **Page 123**

To complement its cloud policy, the New Zealand Government has adopted cloud-based services within many of the common capability contracts established by the office of the New Zealand Government Chief Information Officer.

Finding 56   **Page 125**

The Commonwealth, Queensland, and Victorian governments have implemented whole-of-government policies that promote the adoption of a "cloud-first" approach to ICT procurement, where cloud products are available.

Finding 57   **Page 125**

New South Wales (NSW) has used cloud-based products to establish two data centres under an initiative called GovDC. GovDC aims to consolidate the data centre requirements of 130 agencies by August 2017.

Finding 58   **Page 128**

The WAGCIO released a whole-of-government Cloud Policy in 2016 to promote the widespread adoption of cloud technologies across the Western Australian Government, and to support agencies as they transition to cloud computing.

Rather than adopting the "cloud-first" mantra used in several other jurisdictions, the current policy encourages agencies to consume cloud-based offerings wherever they will deliver value and are fit for purpose.

Finding 59   **Page 128**

The WAGCIO claims that with appropriate policy direction and central guidance in place, the transition to cloud computing could save the Western Australian Government 10 to 50 per cent on its overall ICT spend.

Recommendation 14   **Page 130**

The WAGCIO amend the Western Australian Government Cloud Policy to include a statement that requires agencies to adopt a "cloud-first" approach when contemplating future ICT investments.

Finding 60   **Page 132**

The purpose of one-stop shop approaches to service delivery is to enable customers to interact with government through a single point of contact, thereby removing the need to deal with separate agencies for different business requirements.

Finding 61   **Page 132**

While the transition to one-stop shop environments require an increasing number of government services to be available online, some level of demand for traditional communication channels (telephone; mail; service centres) is likely to continue.

Finding 62   **Page 136**

Gov.UK is the one-stop shop for government services and information in the UK. The websites of all 27 ministerial departments and 373 other agencies and public bodies have been merged into Gov.UK.

Finding 63   **Page 138**

Govt.nz is a customer-centric online one-stop shop for New Zealand Government information services that was launched in July 2014. Currently, the Govt.nz website receives an average of 11,400 visits per day.

Finding 64   **Page 140**

The New Zealand Government launched an initiative called RealMe in 2013 to facilitate greater online capability for consumers of government services.

So far, 2.7 million RealMe login accounts have been created and over 186,000 RealMe verified identities have been established.

Finding 65   **Page 140**

The New Zealand Government is on track to meet its target of having 70 per cent of all customer service transactions completed digitally by November 2017.

Finding 66   **Page 142**

Service NSW was launched in July 2013 and offers customers a one-stop shop experience by delivering more than 800 transactions through one digital service, one phone number and a network of at least 52 physical customer service centres.

Finding 67   **Page 142**

Service NSW has taken what it calls an 'omni-channel' approach to customer service delivery and has been built in a way that is scalable to reflect customer demand.

Finding 68   **Page 143**

In February 2016 the NSW Government single identity online account facility, MyService NSW, went live. My Service NSW customers are now able to create a digital identity for easier access to services across NSW Government agencies through a single point. The scope of transactions that can be performed through a My Service NSW account will vary depending upon the level of identity each customer wishes to provide.

Finding 69   **Page 149**

While some Western Australian agencies have adopted and are implementing a customer-centric approach to service delivery, this approach is generally lacking across the sector.

Finding 70   **Page 149**

The WAGCIO has confirmed there are 450 Western Australian Government websites despite there being only 140 entities across the public sector. Collectively, agencies currently spend $25 million dollars a year maintaining these websites.

Finding 71   **Page 149**

While the Government operates a whole-of-government portal, WA.GOV.AU, this site appears to be underutilised. The WAGCIO has rightly described this site as a 'mix of different things but primarily static information which does not add much value.'

Finding 72   **Page 149**

The WAGCIO has plans to establish a Digital Service Portal that will include a single point to find government digital services; a single payment gateway; connected systems to allow for multiple agency information exchange; and personalised profiles for individual users.

Development of the initial portal should be completed by the end of 2016 with the full Digital Services Portal expected to be finalised by the end of 2019.

Finding 73   **Page 150**

The WAGCIO has confirmed plans to establish a Digital Identity Platform. The Platform will be designed to allow businesses and community members to create digital identities from which they can access government services safely and securely.

The pilot for the initial Digital Identity Platform is expected to have commenced by the end of 2017.

Finding 74   **Page 151**

The WAGCIO has not committed to establishing multiple channels through which customers can interact with Government; rather it plans to look at ways to help citizens transition to the digital environment.

Recommendation 15   **Page 152**

The WAGCIO conduct an investigation into the viability of an omni-channel one-stop-shop approach to service delivery, similar to that in operation through Service NSW.

Recommendation 16   **Page 152**

The WAGCIO examine the benefits of mandating the Digital Services Portal for all agencies leaving an option to apply for an exemption.

Recommendation 17   **Page 153**

The WAGCIO maintain open lines of communication with the Australian Government Digital Transformation Office regarding developments with the myGov infrastructure and the potential for its application in Western Australia.

Finding 75   **Page 155**

The WAGCIO has advised that the opening of access to public sector data, together with approaches to removing restrictions surrounding its use, is a growing trend among governments nationally and internationally. This phenomenon is commonly referred to as open data.

Finding 76   **Page 156**

Evidence suggests that open data provides the greatest potential benefit when it is published in raw form. Raw data is pre-interpreted data that has not undergone any form of manipulation.

Finding 77   **Page 156**

The Committee identified the following principles to be common among the government open data policies it has examined: data should be open by default, but protected where necessary; easily discoverable and useable; up-to-date and raw; trusted and authoritative; available for free; subject to public input; and modifiable and machine-readable.

Finding 78   **Page 159**

Open data is seen to offer numerous benefits including improved efficiency and operations of public services through the development of data-driven, evidenced-based policy solutions.

Finding 79   **Page 160**

The primary concerns about publishing open data in raw form relate to the quality of data being made available, the potential for its misuse, and its impact on privacy.

Finding 80   **Page 163**

According to the NSW Government, its first open data policy, launched in 2013, has helped deliver significant improvements in human services, the environment, good government, road safety, and outcomes for vulnerable populations.

Finding 81   **Page 167**

The governments of Australia, NSW, Queensland, and New Zealand are among the many jurisdictions to have established open data portals through which government datasets can be accessed by the public.

Finding 82   **Page 167**

'Hackathons' have emerged as a popular way for governments to encourage the use of open data by developers, students, and anyone with an interest in open data, to develop innovative new services and solutions.

Finding 83   **Page 168**

The Western Australian Government has adopted the following five principles for open data within its Whole-of-Government Open Data Policy: data should be open by default; easily discoverable and subject to public input; usable; protected where required; and timely.

Finding 84   **Page 172**

Governments are increasingly looking towards how open data can be formally analysed to identify and solve policy problems using evidence-based innovative ICT solutions. NSW appears to be the most advanced Australian jurisdiction in this sphere having recently established a Data Analytics Centre.

Finding 85   **Page 173**

The Committee has noted some ambiguity between the testimony of the WAGCIO and the content of the Whole of Government Open Data Policy as to the Government's position on whether public sector data should be made open by default in raw form.

Finding 86   **Page 173**

The Committee is of the view that public sector data should be made open by default in raw form.

Recommendation 18   **Page 173**

The WAGCIO and Landgate clarify if the Western Australian Whole-of-Government Open Data Policy is encouraging an 'open by default' approach and if the focus of the Policy is on 'raw data'.

Finding 87   **Page 174**

Digital WA includes plans to establish whole-of-government Business Intelligence/Analytics capability using data provided by public sector agencies. The Committee supports this initiative, which is currently scheduled to begin development in the second half of 2019.

Chapter 1

Background to the Inquiry

Rationale for the Inquiry

ICT as a policy challenge

> *The business of government, and indeed most large organisations, is now unalterably founded on ICT transformation and innovation, and this will only grow.*
>
> *Australian Information Industry Association (WA Branch)* [1]

> *…the time to act to improve government ICT is now. A failure to act will only result in Western Australia falling even further behind the rest of the country, at the very time when community expectations are being shaped by the likes of Apple, Google, and eBay.*
>
> *Government of Western Australia Office of the Government Chief Information Officer* [2]

1.1   Information and Communications Technology (ICT) is an essential, and often perplexing, part of the business of governments.

1.2   As more and more citizens look to digital and online technologies to conduct their affairs, governments around the world have had to reconsider their traditional attitudes around how ICT is acquired and used. [3]

1.3   In recognition of this change in consumer behaviour, governments have been seeking to develop innovative solutions in an attempt to improve service delivery and lower the cost of operations. What is emerging is a clear sense that ICT offers significant potential in this area. The increasing prevalence of online government services is evidence of this point.

1.4   Notwithstanding ICT's inherent potential, governments (and indeed the private sector) are acutely aware of the pitfalls that can come with investing in ICT solutions. It is widely accepted that ICT requirements have proven notoriously

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1   Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, Appendix One, p. 4.
2   Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 18.
3   Submission No. 17 from the Department of Education (WA), 25 September 2015, p. 1.

difficult to manage and the public sector landscape is littered with projects and programs that have run over time, over budget, and have failed to deliver their intended benefits.

1.5   While these problems are not unique to Western Australia (WA), the reality is that this State has been slower than many other jurisdictions to look at how to unlock the potential of ICT while avoiding the pitfalls common to ICT investment.

1.6   It was with the view to helping both the current and future governments in WA deal with this policy challenge that the Public Accounts Committee (the Committee) decided to undertake this Inquiry.

ICT investment across the WA public sector

1.7   In October 2015, an official estimate indicated that the WA Government spends 'between $1 billion and $2 billion' on ICT across the public sector each year.[4] It is widely recognised this expenditure has produced mixed results.

1.8   For example, the Government has acknowledged that the delivery of ICT solutions by public sector agencies 'has not always been as efficient and effective as it might have been.'[5]

1.9   Evidence provided by the Australian Information Industry Association (AIIA) supports this claim. The AIIA has argued that WA now has an ICT spend comparable to that of New South Wales, a state with a much larger population to serve.[6]

1.10   The Committee acknowledges that this is not a recent phenomenon and notes that successive governments have struggled with how to improve both the quantity and quality of the State's ICT expenditure.

1.11   In recognition of the fact that the status quo could not continue, the current Government has created the Government of Western Australia Office of the Government Chief Information Officer (WAGCIO). The WAGCIO is headed by Mr Giles Nunis, who has been appointed as WA's first Government Chief Information Officer.

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4   Hon. Bill Marmion MLA, Minister for Finance, WA, Legislative Assembly, *Parliamentary Debates* (Hansard), 14 October 2015, p. 7312.
5   Hon. Colin Barnett, MLA, Premier and Hon. Bill Marmion, MLA, Minister for Finance, *State Government to save costs on ICT*, Media Statement, 18 March 2015.
6   Submission No. 14(A) from the Australian Information Industry Association (WA), 29 February 2016, p. 5.

1.12   The WAGCIO, which came into operation on 1 July 2015, is an 'independent agency'[7] that has been established to:

> *… influence and lead effective ICT investment, stabilise ICT costs, deliver an ICT strategy and enhance ICT project outcomes across the sector in collaboration with government agencies and industry.*[8]

Details of the Committee's inquiry

1.13   The Committee's decision to inquire coincided with the announcement that the WAGCIO was to be established.

1.14   Having noted that most other Australian jurisdictions (and New Zealand) had already established similar positions, the Committee was supportive of the decision to establish the WAGCIO. As such, it decided to use this Inquiry to see what insights could be drawn from the experiences of these counterpart offices in an attempt to complement the early work of the WAGCIO.

1.15   The Committee has also used the Inquiry to inform the Parliament of measures that might be adopted to improve the capacity of WA's public sector agencies to deliver more innovative ICT solutions in a more timely and cost-effective manner.

1.16   With these objectives in mind, the Committee published a call for submissions on 9 July 2015 inviting comment on the following questions:

Delivery of ICT solutions:

1) *What are the common problems witnessed in public sector delivery of ICT goods and services?*

2) *What elements represent best practice in ICT delivery (with delivery including all aspects of the procurement[9] process)?*

3) *How do we best measure or define success in ICT delivery?*

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7   Office of the Government Chief Information Officer (WA), '<u>About us</u>', 2016.

8   Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, Cover Letter, p. 1.

9   Please note that for the purposes of this Inquiry, the Committee has adopted the Department of Finance (WA) definition of procurement as 'the entire process for obtaining all class of resources …. It can include planning, design, standards determination, specification writing, preparation of quotation and tender documentation, selection of suppliers, financing, contract administration, disposals and other related functions.' Department of Finance (WA)*, Procurement Practice Guide*, May 2016, p. 77.

Government ICT solutions for WA

4) *What are the latest developments (domestic and/or international), in the area of government ICT systems?*

5) *What jurisdictions (domestic and/or international) have adopted the latest developments in government ICT systems that have demonstrably reduced the cost, and improved the delivery, of government services?*

a. *Could such systems be incorporated into Western Australia?*

b. *If so, what factors need to be taken into account to ensure successful implementation?*

1.17   The Committee received a total of 18 submissions from procurement experts, suppliers of ICT goods and services, ICT industry bodies, the WAGCIO, and a collection of some of WA's largest public sector agencies in terms of ICT expenditure. The full list of submitters is provided in Appendix Six.

1.18   The Committee collected further evidence by way of ten public hearings and three private briefings held in WA. It also undertook a week of investigate travel to Brisbane, Canberra, Sydney, and Wellington (New Zealand) in March 2016. During its travels, the Committee met with a range of experts including the New Zealand and Queensland Government's Chief Information Officers and the Chief Executive Officer of the Australian Government's Digital Transformation Office. The full list of those with whom the Committee met at these hearings and briefings is included in Appendix Seven.

1.19   The Committee would like to express its gratitude to all those who took the time to contribute to this Inquiry and to meet with the Committee. The Committee would like to especially acknowledge the assistance it received from Mr Colin McDonald, the New Zealand Government Chief Information Officer (NZGCIO), and his staff from the Department of Internal Affairs. New Zealand has been recognised by many contributors to the Inquiry as one of the leading international jurisdictions in the field of government ICT investment and the Committee was fortunate to receive two days of comprehensive briefings by the NZGCIO and his team.

1.20   The Committee would also like to thank Mr Nunis and his team at the WAGCIO for their cooperation throughout the Inquiry.

Structure of the Committee's report

1.21   The report is structured in three main parts. In the first part, Chapter Two provides a detailed summary of the changing nature of government attitudes

towards ICT investment across multiple Australian and international jurisdictions. This chapter looks at the factors that have led to a shift in the prevailing mindset of many governments around how ICT might be used, and the common implementation challenges that can still serve to undermine any attempts to deliver innovative solutions.

1.22   In the second part of the report, Chapters Three through Five look at the ways in which these implementation challenges can be addressed in order to improve investment outcomes. The common themes that emerge from other jurisdictions emphasise:

- the importance of establishing whole-of-government strategic ICT leadership roles to guide agencies in a collaborative and coordinated program of reform;

- the need to have leaders within the Executive branch and the bureaucracy engaged in such programs; and

- the value of ensuring that ICT investments are overseen by robust governance structures, both at an agency and a whole-of-government level.

1.23   In the final part of the report, Chapters Six through Nine explore the innovative solutions that are starting to proliferate, facilitated in no small part by the emergence of cloud-computing technologies. These solutions are having a profound impact, not only on the way in which governments seek to improve the quality and accessibility of their services, but also in the way in which they procure and manage their ongoing ICT requirements.

1.24   The Committee believes that this report will assist the Government and the WAGCIO as they plot the way forward on what is an urgent program of ICT reform. Mindful of this urgency, the Committee has sought to provide a set of practical recommendations that are based on the experiences of jurisdictions further ahead than WA on this particular journey.

1.25   In this respect, the Committee urges the Government to provide a formal response to these recommendations before the end of the current Parliamentary session.[10]

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10   Under Legislative Assembly Standing Order 277(1), Ministers to whom Committee recommendations are directed are required to respond to the Assembly 'within not more than three months, or at the earliest opportunity after that time if the Assembly is adjourned or in recess'. With the 39th Session of Parliament likely to conclude within two months of this report being tabled, the Government will not technically be required to provide a response.

Chapter 2

Trends in Government Procurement and Use of ICT

Traditional approach to ICT procurement and use by governments

2.1   Government agencies within Australia, and in numerous other international jurisdictions, have traditionally sought to own and operate ICT assets and have tended to operate independently of each other when procuring from the market.[11] For certain standardised products and services, it has been common for governments to establish aggregated supply arrangements under which an agency can then negotiate fixed or indexed pricing agreements directly with an approved provider. This has been the case in WA, where the Department of Finance has set up a series of ICT-oriented Common Use Arrangements (CUAs).[12]

2.2   Alternatively, if a bespoke (or customised) solution has been required, agencies have generally gone to tender seeking external expertise to build and possibly maintain a particular asset.

2.3   Contracts for ICT goods and services have often been framed around technical specifications and outputs, with the overarching focus on cost rather than linking an ICT solution to the realisation of a particular benefit or business outcome.[13]

2.4   These traditional approaches to ICT procurement share some common characteristics that have proven increasingly problematic for governments. Firstly, they regularly require upfront capital commitments with high costs

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11   Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 3; Department of Science, Information Technology, Innovation and the Arts (QLD), *Queensland Government ICT Strategy 2013-17: action plan*, August 2013, p. 58; Mr Duncan Reed, General Manager, System Transformation, Department of Internal Affairs (NZ), Briefing, 10 March 2016; Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, Appendix One, p. 13.

12   It should be noted that procurements above $250,000 will generally require an agency to conduct an open tender process among a group of approved suppliers, before entering into final negotiations. See, Department of Finance (WA), *Procurement Practice Guide*, May 2016, p. 14.

13   Independent Commission Against Corruption (NSW), *Managing IT Contractors, Improving IT Outcomes*, August 2013, p. 14. Sir Peter Gershon, *Review of the Australian Government's Use of Information and Communication Technology*, August 2008, p. 42; Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, Appendix One, pp. 5-6.

incurred for the maintenance and replacement of assets.[14] Secondly, the propensity of agencies to operate in silos often results in the duplication of ICT goods and services across the sector. This is exacerbated by a tendency to purchase excess requirements with international evidence indicating that governments 'barely use 40 per cent of the [ICT] infrastructure' they purchase.[15]

2.5   Another problem relates to the assumption of commercial risks when governments outsource work and labour. ICT industry representatives have confirmed that agencies regularly outsource to supplement their lack of in-house expertise without transferring any risk to the suppliers of these services.[16]

2.6   A further problem under such approaches is that there is little capacity to take advantage of technologies as they evolve or become cheaper.

2.7   Given these collective problems, it is not surprising that this traditional commercial framework has been described as 'lots of bi-lateral locked-in, locked-down contracts, with a lack of innovation opportunities.'[17]

2.8   As to government attitudes regarding the use of ICT, the conventional mindset has been to consider ICT as a necessary cost for supporting internal functions (e.g. human resources, identity access, word-processing and publication systems). Little emphasis has been placed on how ICT can be used to improve the quality of services offered by government agencies.

2.9   This has been confirmed as an issue in WA where the Government of Western Australia's Office of the Government Chief Information Officer (WAGCIO) has stated that '[t]he challenge for the public sector is to transform ICT from a business cost to a business enabler.'[18]

Recent attitudinal shifts around how and why ICT is procured

2.10   Throughout the last decade, governments in other Australian and international jurisdictions (e.g. Commonwealth, NSW, New Zealand and the United Kingdom)

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14   Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 5; Department of Science, Information Technology, Innovation and the Arts (QLD), _Queensland Government ICT Strategy 2013-17_, June 2013, p. 4.

15   Mr Giles Nunis, Government Chief Information Officer (WA), _Transcript of Evidence_, 18 November 2015, p. 4.

16   Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, Appendix One, p. 8; Submission No. 4 from Ajilon Australia Pty Ltd, 10 September 2015, p. 3.

17   Mr Chris Webb, General Manager, Commercial Strategy and Delivery, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

18   Office of the Government Chief Information Officer (WA), _Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020_, 26 May 2016, p. 23.

have embarked upon a fundamental rethink of their approach to ICT. A common motivator for this transition has been budgetary constraints that have resulted in pressure to derive greater efficiencies from ICT expenditure.[19]

2.11   Faced with this dilemma, leading jurisdictions such as New Zealand came to form the view that ICT assets should not necessarily be considered part of the core business requirements for most government agencies.[20] This attitudinal shift coincided with the emergence of cloud-computing technologies that allowed a variety of commoditised ICT products to be delivered remotely via the internet rather than being owned and operated on-site.

2.12   The emergence of cloud technologies (which is examined in further detail in Chapter Seven) has facilitated an alternative approach to procurement under what the WAGCIO describes as a 'consumption-based, operating expenditure model'.[21] Under this model—also known by the term "as-a-service"—agencies acquire certain ICT products and services paying only for what they consume, usually on a monthly basis. In addition, agencies have the capacity to switch between a panel of approved suppliers delivering the standardised product or service depending on which supplier is currently offering the best value. Notably, while the as-a-service terminology generally applies to cloud-computing offerings, the consumption-based pricing concept is also applicable to the purchase of products or services that are hosted on-site.

2.13   The WAGCIO submission described the consumption-based/as-a-service pricing model as one that 'is not well suited to traditional procurement methods', which entail 'upfront commitments and lengthy contracts.'[22] However, it also noted that this new model places agencies 'in a much more favourable position in terms of cost and risk.'[23] The Australian Information Industry Association (AIIA) has added that as-a-service offerings enable a much greater level of agility, flexibility, and cost-effectiveness in the management of an agency's ICT requirements.[24]

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19   Department of Finance and Services (NSW), _NSW Government ICT Strategy 2012_, May 2012, p. 4; Department of Finance and Deregulation (CWTH), _Australian Public Service Information and Communications Technology Strategy 2012 – 2015_, 2012, pp. 6,11.

20   Mr Duncan Reed, General Manager, System Transformation, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

21   Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 5.

22   ibid.

23   ibid.

24   Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, p. 15. A similar sentiment was conveyed by the Queensland Government. See, Department of Science, Information Technology, Innovation and the Arts (QLD), _Queensland Government ICT Strategy 2013-17_, June 2013, p. 4.

2.14   In terms of deriving better value across government, some jurisdictions have been quicker than others to realise that many ICT needs were common across all agencies.[25] This provided scope to establish commercial frameworks by which all government agencies could access standardised ICT products and services under a whole-of-government consumption-based pricing arrangement. New Zealand, which established 'Government common capability' contracts as early as 2011, is one of the pioneering jurisdictions in this area.[26] (Note: New Zealand's experience with this alternative procurement model is examined in Chapter Six).

2.15   As the leading jurisdictions began to question the conventional wisdom of owning ICT assets to support business operations, thought shifted towards how advances in ICT could be used to deliver better business outcomes.[27]

2.16   In its 2012 ICT Strategy, the New South Wales (NSW) Government conceded that 'tech-savvy' citizens were expecting their governments to 'move with the times, providing the services they need in the ways they need them.'[28]

2.17   In New Zealand, the Better Public Service (BPS) initiative was launched by Prime Minister John Key in 2012 and similarly encouraged innovation in the way government uses ICT. The BPS initiative outlines ten aspirational 'results' for government agencies.[29]

2.18   Result 9 challenges agencies to 'make it easier and more efficient for business customers to deal with government'.[30] Result 10, which is more citizen-focused, is directed towards allowing New Zealanders to 'complete their transactions with government easily in a digital environment.'[31] Result 10 seeks to have 70 per cent of the most common government transactions available via digital channels by 2017. In explaining its rationale for Result 10, the New Zealand Government acknowledged that '[a]gencies need to re-think the way they

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25   Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016; Department of Finance and Services (NSW), *NSW Government ICT Strategy 2012*, May 2012, p. 27.

26   New Zealand's common capability contracts will be explored in detail in Chapter Six. The New Zealand Government describes Government common capability as 'Any business or ICT capability that can potentially be used by more than one agency, or across the whole-of-government, to support the delivery of business outcomes.' Department of Internal Affairs (NZ), 'Products and Services: Glossary', no date.

27   Department of Science, Information Technology, Innovation and the Arts (QLD), *Queensland Government ICT Strategy 2013-17: action plan*, August 2013, p. 58.

28   Department of Finance and Services (NSW), *NSW Government ICT Strategy 2012*, May 2012, Minister's Foreword.

29   State Services Commission (NZ), 'Better Public Services: Improving interaction with government', 12 September 2014.

30   ibid.

31   ibid.

deliver services, particularly given the public desire to access government services digitally.'[32]

2.19   More recently, the Australian Government released its National Innovation and Science Agenda (NISA). NISA is based on four key pillars, one of which calls on the government sector to act as an 'exemplar' in the way it 'invests in and uses technology and data to deliver better quality services.'[33]

2.20   The attitudinal shifts observed in other jurisdictions have been slower to manifest in WA. While acknowledging that some WA agencies have begun to respond to these emerging trends, the WAGCIO has nonetheless recognised that:

> *The entire public sector needs to develop and mature the capabilities required to turn government into digital government, in order to meet the expectations of a community living and working in a digital world.*[34]

Implementing ICT solutions remains challenging

2.21   While governments are increasingly attuned to the potential of ICT to improve the quality and cost-effectiveness of service delivery, the reality is that many governments and their agencies remain susceptible to the pitfalls associated with implementing ICT solutions. In his submission to the Inquiry, Mr E. John Blunt, a procurement executive with extensive experience working with local and international governments, put it simply: '[d]elivering ICT solutions is difficult.'[35]

2.22   Mr Blunt's assessment is well-supported by public literature on this topic. In 2008, a *Review of the Australian Government's Use of Information and Communications Technology* conducted by Sir Peter Gershon (the Gershon Report) looked at 193 completed projects. It found 23 per cent were delivered over budget [and] 33 per cent were delivered over time'.[36] In 2011, a research project of 1,471 'IT change initiatives', 92 per cent of which involved US and European public agencies, found that one in six had 'a cost overrun of 200 [per

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32   State Services Commission (NZ), 'Better Public Services: Improving interaction with government', 12 September 2014.

33   As described in Submission No. 14(A) from the Australian Information Industry Association (AIIA), 29 February 2016, p. 2.

34   Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 6.

35   Submission No. 2 from Mr E. John Blunt, 14 August 2015, p. 2.

36   Sir Peter Gershon, *Review of the Australian Government's Use of Information and Communication Technology*, August 2008, p. 18.

cent], on average, and a schedule overrun of almost 70 [per cent].'[37] Value Management Consulting's submission to the Inquiry referred to reports from the Standish Group that, for 30 years have 'consistently' found two-thirds of all ICT projects (public and private sector) 'fail or are challenged in delivery on-time and on-budget.'[38]

2.23   It is important to note that measures of success should not be considered purely in terms of timing and cost. Successful implementation should also be based on the realisation of value and intended benefits.[39] However, this is another area that has traditionally proven problematic. The aforementioned 2008 Gershon Report found only 5 per cent of the 193 projects it examined had 'reported actual measurement of benefits and compared anticipated benefits with actual benefits realised.'[40] Notably, a 2010 survey undertaken by Capability Management and the CIO Executive Council[41] found 82 per cent of organisations do not even have processes in place to measure any business benefits that might be realised through ICT solutions.[42]

2.24   In the face of such data, it is easy to see why ICT projects are regarded as 'notorious for running over-cost and over-budget and for under-delivery.'[43] Governments have been gradually awakening to the reality that they need to address the factors that contribute to these adverse outcomes. Failure to do so puts the likely success of any future transformational ICT initiatives at risk.

Common problems that can undermine the implementation of ICT solutions

2.25   The common factors that undermine the successful implementation of ICT solutions in many jurisdictions are generally strategic, cultural, or commercial in nature. Many of these factors remain evident in WA.

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37   Bent Flyvbjerg and Alexander Budzier, 'Why Your IT Project May Be Riskier Than You Think', *Harvard Business Review* (Online), September 2011.

38   Submission No. 6 from Value Management Consulting Pty Ltd, 9 September 2015, p. 3.

39   Submission No. 13 from ISACA, 11 September 2015, p. 2.

40   Sir Peter Gershon, *Review of the Australian Government's Use of Information and Communication Technology*, August 2008, p. 18.

41   The Australian Chapter of the CIO Council, a body that originated in the United States, describes itself as 'is an unbiased safe-haven for IT executives who are seeking professional advancement and to develop their leadership skill sets, showcase their successes and make better, more informed decisions.' See, CIO Executive Council, 'Overview', no date.

42   Submission No. 6 from Value Management Consulting Pty Ltd, 9 September 2015, p. 2. This survey solicited the views of 40 Australian CIO-level executives over a series of interviews throughout 2009.

43   Independent Commission Against Corruption (NSW), *Managing IT Contractors, Improving IT Outcomes*, August 2013, p. 9.

Strategic inhibitors

2.26   Over the last decade, governments throughout Australia (and New Zealand) have looked to establish whole-of-government strategic leadership positions to guide agencies on the challenges and opportunities presented by a rapidly evolving ICT environment.[44] These governments have argued that a coordinated and strategic approach is more likely to enhance productivity, reduce costs, and make services better and more accessible.[45] Without any change in this area, traditional agency-centric approaches are likely to continue. This risks a further proliferation of fragmented services, duplication of assets, and inconsistent outcomes from ICT procurement.

Strategic inhibitors in WA

2.27   WA was the last Australian state to establish a sector-wide strategic ICT leadership position with the WAGCIO formally coming into operation on 1 July 2015. One of the first tasks the WAGCIO undertook was the development and subsequent release of *Digital* WA*: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 – 2020* (hereafter *Digital* WA or the Strategy).[46] Up until this time, WA remained the only Australian state without a sector-wide ICT strategy.[47] This lack of strategic direction had been noted by industry[48] and it has been arguably exacerbated by what Ajilon Australia Pty Ltd claims is a 'lack of proactive guidance' around the policy framework that is in place to improve outcomes from ICT procurement.[49]

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44   Department of Premier and Cabinet (TAS), *Tasmanian Government ICT Strategy*, December 2011, p. 3; Department of Finance and Services (NSW), *NSW Government ICT Strategy 2012*, May 2012, p. 5; Department of Internal Affairs (NZ), *Government ICT Strategy and Action Plan to 2017*, June 2013, p. 3.

45   Department of Finance and Deregulation (CWTH), *Australian Public Service Information and Communications Technology Strategy 2012 – 2015*, 2012, p. 9; Department of Treasury and Finance (VIC), *Victorian Government ICT Strategy 2013 to 2014*, 2013, p. 6.

46   The Committee examines *Digital* WA in more detail starting at paragraph 3.44.

47   In terms of the territories, the Northern Territory Government has yet to publish an ICT strategy, but there is an *NT Government ICT Governance Framework* available to agencies via the Government's intranet site. While the ACT Government did publish a broad ICT Strategic Plan in 2011, it was applicable to the period 2011 through 2015 and appears not to have been updated or superseded. See Department of Treasury and Finance (NT), 'Treasurer's Directions: Information and Communications Technology', July 2015, p. 1; ACT Government, *The Strategic Plan for ICT 2011-2015*, no date.

48   Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, Appendix One, p. 13.

49   Submission No. 4 from Ajilon Australia Pty Ltd, 10 September 2015, p. 2.

Chapter 2

Cultural inhibitors

2.28   The tendency for public sector agencies to operate within silos regarding their ICT requirements[50] is one of several key cultural problems that whole-of-government ICT strategies seek to address. This silo-mentality denies underperforming agencies the opportunity to learn elements of best practice in ICT procurement from their more competent counterparts.

2.29   Another key cultural problem is a common misperception among agency executives as to the role ICT can play in helping to improve business operations and outcomes. The Committee was advised that:

> *Governments often embark on "big bang" ICT projects, looking to solve too many business problems at the same time. Technology is often seen by senior executives as a solution in itself, rather than an integrated enabler of defined business objectives.*[51]

2.30   In terms of flow-on effects, if an agency executive does not have a sound understanding of their business requirements—and the ways in which ICT might complement these requirements—they risk becoming overly reliant on the advice of ICT contractors. This can lead to a loss of control over both the scope and cost of any proposed ICT solution.[52]

2.31   Cultural problems can also extend from the executive level down to those charged with managing ICT operations within an agency. At this level, opportunities for innovation and agility may be stymied where ICT business unit leaders see their roles potentially diminishing under new procurement approaches 'and act to preserve their position.'[53] This can lead to some agencies persisting with the traditional approaches to procurement (see 2.1 through 2.6 above) when these may not offer the best option in terms of cost, efficiency, and service delivery.

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50   Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016; Submission No. 17 from the Department of Education (WA), 25 September 2015, pp. 1-2; Department of Finance and Services (NSW), *NSW Government ICT Strategy 2012*, May 2012, pp. 5-6.

51   Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, Cover Letter. Other submissions also commented on problems inherent with focusing on ICT as a solution in itself rather than an enabler of better service. See Submission No. 10 from Landgate (WA), 11 September 2015, p. 3; Submission No. 6 from Value Management Consulting Pty Ltd, 9 September 2015, p. 4.

52   Department of Finance (WA) and Department of Treasury (WA), Briefing, 24 June 2015.

53   Submission No. 4 from Ajilon Australia Pty Ltd, 10 September 2015, p. 3. See also, Mr Chris Webb, General Manager, Commercial Strategy and Delivery, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

Cultural inhibitors in WA

2.32   Evidence received by the Committee indicates the WA public sector provides an environment where these cultural inhibitors can still take hold of ICT investment decisions. For example, submissions from the AIIA and the WA Department of Education both made reference to the fact that agencies in WA often act in isolation when contemplating and delivering ICT solutions.[54]

2.33   In addition to this ongoing silo mentality, many departmental leaders have been reluctant to grasp and understand the opportunities that ICT solutions can offer to improve business outcomes and reduce costs. While noting some recent improvement, the Chair of the WA Branch of the AIIA, Mrs Cheryl Robertson, nonetheless made this observation to the Committee:

> *What I do find, and the conversations I have had with quite a significant portion of the DG level population, is that they do not want to know. They are not interested; they do not understand and, therefore, they do not want to know.*[55]

2.34   The challenges confronting many CEOs and Directors General around the influence of ICT on business transformation may be attributable more to ignorance than obstinacy. The WA Government Chief Information Officer, Mr Giles Nunis, told the Committee that part of the reform program he is guiding in WA will look to address what he believes is a lack of understanding of technology 'at that particular tier of government'.[56]

Commercial inhibitors

2.35   The problems the Committee has classified as "commercial contributors" apply to the conduct and oversight of ICT procurement. An appropriate definition of procurement in this context is provided by the WA Department of Finance, which refers to procurement as 'the entire process' for acquiring any particular resource.[57] This can include:

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54   Submission No. 14(A) from the Australian Information Industry Association (AIIA), 29 February 2016, p. 13; Submission No. 17 from the Department of Education (WA), 25 September 2015, pp. 1-2.

55   Mrs Cheryl Robertson, Chair WA, Australian Information Industry Association (AIIA), *Transcript of Evidence*, 18 November 2015, p. 5.

56   Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, p. 8.

57   Department of Finance (WA)*, Procurement Practice Guide*, May 2016, p. 77.

> *…planning, design, standards determination, specification writing, preparation of quotation and tender documentation, selection of suppliers, financing, contract administration, disposals and other related functions.*[58]

2.36 Weaknesses in any aspect of this process can lead to adverse outcomes. Mr E. John Blunt has advised that a 'key factor' in the successful delivery of ICT solutions is 'the background and experience of the Project Manager' who is engaged in the procurement process.[59] Mr Blunt's sentiments are shared by other authoritative sources.[60]

2.37 An experienced project manager is more likely to act to prevent, or identify and correct, a variety of issues that reflect poor procurement practice. These issues include a failure to conduct appropriate scoping of the perceived business needs of an agency before forming a view on the merit of any particular ICT solution that might be proposed. Mr Blunt has advised that '[t]his stage, for ICT projects, is often problematic'.[61] Inadequate scoping can subsequently lead to the preparation of an inadequate business case, which increases the likelihood that an ICT solution will fail or become more difficult to manage in terms of scope.[62]

2.38 Sub-standard contract structures, along with inadequate contract and vendor management, are further examples of poor procurement practice.[63] The AIIA has referred to a 'set and forget' mentality that can 'often' take hold following the sign-off on a contract, or even a scoping plan.[64] In these circumstances a formal review cycle is often not established. Without a review mechanism in place, problems mount. The AIIA stated that in these circumstances:

> *…there is no "measurable" reporting nor is there continued alignment to business outcomes and/or adjustment for possible changes in outcome requirements or business climate. Furthermore, contracts may continue on, almost indefinitely, with no "health" check or review*

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58 Department of Finance (WA)*, Procurement Practice Guide*, May 2016, p. 77.
59 Submission No. 2 from Mr E. John Blunt, 14 August 2015, p. 2.
60 Department of Science, Information Technology, Innovation and the Arts (QLD), *Queensland Government ICT Strategy 2013-17*, June 2013, p. 10; Submission No. 3 from Department of Finance (WA), 25 August 2015, p. 3.
61 Submission No. 2 from Mr E. John Blunt, 14 August 2015, p. 3.
62 Independent Commission Against Corruption (NSW), *Managing IT Contractors, Improving IT Outcomes,* August 2013, p. 9; Submission No. 2 from Mr E. John Blunt, 14 August 2015, pp. 2-3; Submission No. 3 from Department of Finance (WA), 25 August 2015, p. 6.
63 Submission No. 3 from Department of Finance (WA), 25 August 2015, p. 6; Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, p. 4.
64 Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, p. 4.

often resulting in excessive cost and/or deviation from original outcome.[65]

2.39   The AIIA's view on this matter was echoed by the WAGCIO, which identified the lack of an ongoing review regime to ensure 'continued business justification' was a common factor in ICT project failures across jurisdictions.[66]

2.40   Agencies may look to compensate for their lack of project management experience by hiring external specialists. This too presents inherent risks. Agencies that follow this path need to be mindful they are not 'captured' by 'vested interest group[s]' that promote their preferred solutions when others may be more appropriate to the needs of the business.[67]

2.41   While project management expertise is clearly critical to the successful delivery of ICT solutions, it has been suggested that overarching governance structures have a greater influence on ultimate success or failure. The 2010 Capability Management and CIO Executive Council Survey report (see 2.23 above) noted that research on ICT project failure 'has consistently found that more projects fail due to poor project governance rather than poor project management.'[68]

2.42   In essence, governance structures clarify the 'roles, responsibilities, and accountabilities' of those parties who carry out an organisation's operations.[69] Governance structures are intended to help an organisation set and monitor strategic goals and operational objectives.[70]

2.43   The evidence obtained by the Committee has repeatedly referred to an absence of governance, or inadequate levels of governance, as a common feature of failed ICT projects.[71] Notably, this issue has also been cited as a problem in jurisdictions that have embarked on ICT reform considerably earlier than WA.[72] For example, the New Zealand's Government Chief Technology Officer, Mr Tim

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65   Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, p. 4.

66   Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 2.

67   Submission No. 2 from Mr E. John Blunt, 14 August 2015, p. 2.

68   *Shifting Focus Shifting Results: A Joint Research Initiative by the CIO Executive Council & Capability* Management, September 2010, p. 28. A report provided to the Committee as an appendix to Submission No. 6 from Value Management Consulting Pty Ltd, 9 September 2015.

69   Taken in part from the definition provided by the Department of Treasury (WA), *Strategic Asset Management – Overview*, no date, p. 18.

70   Queensland Treasury, 'Information Sheet 2.1 – What is Governance?', Financial Accountability Handbook, Volume 2, February 2016, pp. 1-2.

71   Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 2; Submission No. 13 from ISACA, 11 September 2015, p. 3.

72   Queensland Government Chief Information Office, *ICT Program and Project Assurance Framework*, Version 1.0.2, February 2014, p. 4.

Occleshaw, told the Committee that failings he had observed in the delivery of ICT solutions were 'very often in the governance space.'[73]

2.44 Failings in governance are exacerbated where an agency relies heavily on contractors to deliver ICT outcomes. As the WAGCIO has noted, such agencies run the risk of 'allowing the fox to look after the henhouse.'[74]

Commercial inhibitors in WA

2.45 As with the strategic and cultural inhibitors, the WA public sector has suffered from the same commercial problems that have plagued other jurisdictions. Testimony from Ajilon and the WA Department of Finance suggests there has been a lack of experienced project managers within WA public sector entities to deal with large, high-risk, and complex ICT projects.[75] As a consequence, elements of poor procurement practice have been evident.

2.46 These include examples of poor planning and/or a lack of appropriate scoping that have been reported by the Auditor General following his examination of several project failures.[76] The AIIA has also suggested that a significant factor impacting effective ICT procurement in WA is the fact that relatively few 'major ICT initiatives' are subject to objective review beyond the initial funding submission.[77]

2.47 Contract management is another problem area for some agencies. In 2011, the Auditor General examined 24 ICT contracts with a combined value of $459.2 million across six agencies. He found that only one of these agencies, Landgate, 'managed all aspects of ICT contracting and procurement well.'[78] In addition, the contract management practices within the WA Department of Health (WA Health) have been criticised in a range of reports since at least 2010.[79] In a highly

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73 Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

74 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 5.

75 Submission No. 4 from Ajilon Australia Pty Ltd, 10 September 2015, p. 3; Mr Paul Wilkins, General Manager, Innovation and Strategy, Ajilon Australia Pty Ltd, *Transcript of Evidence*, 11 May 2016, pp. 8-9; Submission No. 3 from Department of Finance (WA), 25 August 2015, p. 6.

76 Submission No. 3 from Department of Finance (WA), 25 August 2015, p. 6.

77 Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, Appendix One, p. 6.

78 Auditor General Western Australia, *Second Public Sector Performance Report 2011*, Report No. 11, September 2011, p. 6.

79 Auditor General Western Australia, *Information Systems Audit Report*, Report No. 14, June 2014, p. 6. See also: Auditor General Western Australia, *ICT Procurement in Health and Training*, Report No. 9 October 2010; Auditor General Western Australia, *Health Department's Procurement and Management of its Centralised Computing Services Contract*, Report No. 1, February 2016; Public Accounts Committee (38th Parliament), *Building Foundations for Value: An analysis of the*

critical report into WA Health's Centralised Computer Services Contract released in February 2016, the Auditor General noted that while the Department had begun to undertake the necessary changes, it still needed to 'better understand contract management and oversight of contracts.'[80]

2.48   Finally, the maturity of governance frameworks in place across the WA public sector also appears to be variable. The most prominent example is WA Health, which has recently implemented a new governance structure having identified 'the lack of an agreed, agency-wide governance structure and methodology for prioritising ICT investment decisions' within the Department.[81] However, it appears that WA Health is not the only department that has struggled to establish proper governance arrangements. The WAGCIO has confirmed that '[u]nfortunately, many Western Australian government agencies assume that their organisational structure reflects an appropriate project governance structure.'[82]

The case for reform in Western Australia

2.49   The need for reform in the WA public sector is self-evident. When announcing the establishment of the WAGCIO, the Premier and the Finance Minister acknowledged that '[t]he delivery of ICT services in Government has not always been as efficient and effective as it might have been.'[83] While the WAGCIO has stressed that there have been some 'highly innovative and successful ICT projects'[84] in WA, it too has recognised that the public sector, here and elsewhere, 'does not have a strong record in delivering ICT projects on time or on budget.'[85] The WAGCIO has confirmed that in 2015, WA had 'consistently ranked' below other Australian jurisdictions in evaluations of 'government ICT' conducted by specialist publications including *Intermedium* and *iTnews*.[86]

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processes used to appoint Serco to provide non-clinical services at Fiona Stanley Hospital – Western Australia's largest ever services contract, Report No. 16, June 2012.

80 Auditor General Western Australia, _Health Department's Procurement and Management of its Centralised Computing Services Contract_, Report No. 1, February 2016, Cover Letter and p. 4.

81 Submission No. 16 from the WA Department of Health (WA Health), 15 September 2015, p. 1.

82 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 2.

83 Hon. Colin Barnett, MLA, Premier and Hon. Bill Marmion, MLA, Minister for Finance, _State Government to save costs on ICT_, Media Statement, 18 March 2015.

84 Office of the Government Chief Information Officer (WA), _Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020_, 26 May 2016, p. 18.

85 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 8.

86 Office of the Government Chief Information Officer (WA), _Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020_, 26 May

2.50   WA's status as a laggard in terms of government ICT investment outcomes has also been confirmed by the ICT industry. In August 2015 correspondence with the WAGCIO, the AIIA referred to five agencies that 'manage their ICT well' (WA Police, Landgate, Education, Training, and Housing).[87] Notwithstanding this assessment, the AIIA has since informed the Committee of a 'wide perception [throughout the industry] that Western Australia has been the worst performing state in Australia for public sector ICT performance for at least the past decade.'[88]

Finding 1

While there are some agencies that manage their Information and Communications Technology (ICT) needs well, the Australian Information Industry Association (AIIA) has claimed there is a wide perception among industry participants that Western Australia has been the worst state in Australia for public sector ICT performance for at least the past decade.

2.51   It appears that overall capability for managing and using ICT varies from agency to agency across the WA public sector. The Committee has observed throughout this Inquiry some agencies that appear quite proficient and innovative in their approach.[89] However, it is clear that numerous other agencies are still prone to conduct that reflects poor practice. What has been particularly disconcerting is the extent to which the common problems in ICT procurement have endured in WA. In the early stages of this Inquiry, the Committee asked the Auditor General to provide an update on the performance of the WA public sector in this area. He replied:

> …it's just been patchy for my entire term as Auditor General, you see some good things done, but invariably year after year you come across things that have not been done well. There is no consistent trend-line of improvement.[90]

2.52   By establishing the WAGCIO, the Government has recognised that the status quo cannot continue. In *Digital* WA, the WAGCIO has reiterated this point:

2016, p. 18. Note: *Intermedium* has just released a report acknowledging WA's rate of progress in the area of ICT reform over the last 12 months. See paragraph 3.56.

87   Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, Appendix One, p. 10.

88   Submission No. 14(A) from the Australian Information Industry Association (AIIA), 29 February 2016, p. 5.

89   Examples include: Landgate, *Transcript of Evidence*, 16 March 2016; Department of Transport, *Transcript of Evidence*, 23 March 2016; Department of Mines and Petroleum, *Transcript of Evidence*, 6 April 2016.

90   Mr Colin Murphy, Auditor General Western Australia, Briefing, 17 June 2015.

> *… the time to act to improve government ICT is now. A failure to act will only result in Western Australia falling even further behind the rest of the country.*[91]

2.53   Through the WAGCIO, it is hoped that standards in government ICT procurement will be lifted, leading to better outcomes in the planning and delivery of ICT solutions. Without improvements in this area, any attempts to use evolving technologies to provide better quality, lower cost, and more accessible government services will be undermined.

2.54   Given the timing of its establishment, the WAGCIO is in a position to leverage off the experiences of other jurisdictions that have already embarked upon similar processes of reform. With this in mind, the Committee decided to look in detail at how some of the leading jurisdictions have sought to address the problems in government ICT procurement that WA is now confronting. The next four chapters report on the Committee's findings with a view to providing an insight into the challenges the WAGCIO might face, and how these might be overcome.

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91   Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 18.

Chapter 3

Improving Outcomes: Whole-of-Government Strategic ICT Leadership

The emergence of government ICT leaders in other jurisdictions

3.1 As noted at 2.26 above, an increasing number of governments have opted to pursue a coordinated and strategic approach to guide their agencies in the management of ICT requirements. This has been driven by the prevailing view that without whole-of-government direction agencies will continue to operate predominantly in silos. This risks perpetuating unnecessary duplication of assets, inconsistent outcomes from ICT investment, and customer service experiences that are fragmented and variable in terms of their quality and accessibility.

3.2 The New Zealand, Queensland, and Australian governments are among those who have preceded WA in establishing a dedicated ICT leader to address these issues and to drive the innovative use of current and emerging technologies. The Committee has looked in depth at the arrangements in these jurisdictions. It has noted that while these offices share a similar set of objectives, they each vary somewhat in terms how they function and the responsibilities they have assumed.

The New Zealand Government Chief Information Officer (NZGCIO)

3.3 The New Zealand Government Chief Information Officer (NZGCIO) position was first established in March 2008 and it has operated within the Department of Internal Affairs since October 2010.[92] The position has been filled by Mr Colin McDonald since April 2012. The NZGCIO has been authorised to operate as the 'designated functional ICT leader' for the New Zealand Public Service.[93] As the functional leader, the NZGCIO is required to secure cost efficiencies across agencies, improve the quality of services they offer, and increase the level of technological expertise and capability of staff within the sector. The NZGCIO's responsibilities include:

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92 The NZGCIO originally operated as part of the State Services Commission. See, New Zealand Government, 'Directions and Priorities for Government ICT', Minute of Decision (10) 35/5A, Cabinet Office, Wellington, 4 October 2010.

93 Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

- Setting policy, direction and standards for government ICT;

- improving ICT investment management system-wide;

- establishing and managing all-of-government ICT services;

- shaping and developing government ICT capability; and

- providing ICT Assurance across government.[94]

3.4   The NZGCIO was established with an annual budget of NZD$5.5 million and now operates with a budget of around NZD$8 million per annum. It also derives revenue from an average one per cent service fee it charges agencies that procure goods or services under the common capability contracts that have been established by the NZGCIO's team. As part of his performance criteria, the NZGCIO has been charged with finding NZD$100 million in annual savings across government by 2017. It is important to note that these savings are based on the Government's operational budget and are not tied strictly to savings on the cost of ICT. Already the NZGCIO has achieved an annual savings figure of NZD$70 million (in future costs avoided) and is expecting to reach the target figure before the end of 2017.[95]

3.5   The NZGCIO operates with a staff of approximately 80 people across at least five business units. These units include a System Transformation team, which is responsible for developing and overseeing New Zealand's whole-of-government ICT strategy and the Government's ICT investment portfolio.[96] A Commercial Strategy and Delivery team has established a suite of whole-of-government common capability contracts, offering a range of ICT goods and services under consumption-based pricing arrangements (see 2.14 above and Chapter Six). This same team manages ongoing supplier relationships, and provides advice to agencies on how their ICT requirements are best sourced.[97] An ICT System Assurance team also works with agencies to ensure that ICT risks are being appropriately managed and the benefits of ICT investments are being delivered across the sector.[98] Working across all units is a Government Stakeholder Manager whose role is to ensure that all agencies and their Ministers are kept informed about the activities of the NZGCIO.[99]

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94   Department of Internal Affairs (NZ), 'Providing ICT Functional Leadership', 11 July 2016.

95   Mr Tim Occleshaw, Government Chief Technology Officer, and Mr Chris Webb, General Manager, Commercial Strategy and Delivery, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

96   Department of Internal Affairs (NZ), 'System Transformation', 11 July 2016.

97   Department of Internal Affairs (NZ), 'Commercial Strategy and Delivery', 3 August 2015.

98   Department of Internal Affairs (NZ), 'About ICT System Assurance', 25 September 2015.

99   Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

3.6   The NZGCIO does not run the ICT operations of each agency. Instead, his office provides 'strategic leadership and the commercial architecture within which agencies can operate'.[100] While it is not responsible for the whole-of-government procurement policy framework, the NZGCIO team provides advice to Ministers on agency ICT expenditure proposals and has the capacity to intervene where it considers the procurement process for a particular project is not being managed effectively.[101]

3.7   The work of the NZGCIO has been recognised internationally with New Zealand now in the midst of a three-year term as Chair of the Organisation for Economic Cooperation and Development (OECD) E-Leaders' Group.[102]

The Queensland Government Chief Information Office (QGCIO)

3.8   The Queensland Government Chief Information Office (QGCIO) has existed in various forms since at least 2005 before undertaking its most recent structural change in 2013. In its current form, the QGCIO has taken on more of a whole-of-government advisory role having previously been seen as quite 'hands-on' in its interaction at the individual agency level.[103] The QGCIO is currently headed by Mr Andrew Mills, who assumed the position of Queensland Government Chief Information Officer in January 2014. The QGCIO team operates as a division within the Queensland's Department of Science, Information Technology and Innovation.

3.9   As is the case in New Zealand, the overarching objectives of the QGCIO are based on ensuring that ICT investments are reliable and efficient, offer value for money, and focus on service delivery.[104] However, the QGCIO's specific responsibilities appear to be geared more towards collaboration with Ministers and agencies. For example, the QGCIO advises agencies and the Executive branch of government on:

- Setting an ICT strategy;

- policies and processes to ensure better procurement practices;

- risk identification and management;

- managing workforce capability issues; and

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100 Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

101 ibid.

102 ibid.

103 Allie Coyne, 'Qld Govt decides to keep CIO, hunts for new hire', *iTnews*, 29 August 2013.

104 Queensland Government Chief Information Office, 'About Us', no date.

- improving contract outcomes and facilitating vendor relationships.[105]

3.10 The QGCIO has other roles that extend beyond these advisory duties. For example, if the Government embarks on any multi-agency collaboration in the ICT investment sphere, the QGCIO assumes the 'primary design authority role.'[106] It also has quite expansive monitoring and assurance functions, which are used to promote transparency around ICT project delivery and to determine the level of robust governance practices across the sector. While the QGCIO team does not have the intervention powers of its counterpart in New Zealand, requests for new money or budget increases relating to any ICT project must be submitted with the QGCIO for review.[107]

3.11 In a further departure from the New Zealand model, the QGCIO does not have any commercial responsibilities. Instead, the Queensland Government uses another agency, CITEC, 'as a centralised provider of ICT services' under a shared services model.[108]

3.12 The QGCIO has an annual operating budget of approximately AUD$8.7 million and it has around 50 full-time equivalent (FTE) positions spread across six business units covering: Strategic Governance and Policy; Strategic Analysis; Strategic Transformation and Capability; Information Management; and Cyber Security.[109] Unlike the NZGCIO, the Queensland Government has not placed a specific cost reduction target on Mr Mills or his team as a performance benchmark. [110]

Australian Government Digital Transformation Office (DTO)

3.13 The Australian Government originally established a whole-of-government Chief Information Officer position in 2004. The position was initially responsible for developing a policy framework aimed at achieving 'greater consistency in the use, investment and management of ICT' across the public sector.[111] Having been subject to several restructures during its time in operation, the position was dispensed with in February 2014.[112]

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105 Queensland Government Chief Information Office, 'About Us', no date.
106 Mr Andrew Mills, Queensland Government Chief Information Officer, Briefing, 7 March 2016.
107 ibid.
108 Queensland Commission of Audit, *Final Report*, Volume 1, February 2013, p. 1-49.
109 Figures for 2014 taken from: Department of Science, Information Technology and Innovation (QLD), *Annual Report 2014-2015*, 30 September 2015, Part B, p. 7.
110 Mr Andrew Mills, Queensland Government Chief Information Officer, Briefing, 7 March 2016.
111 Verona Burgess, 'Australian government CIO leaves impressive legacy', *Australian Financial Review* (Online), 29 November 2012.
112 Helen Williams AO, *Review of the Operational Activities and Structure of the Australian Government Information Management Office (AGIMO)*, January 2012, p.8; Paris Cowan, 'Australian Government abandons CIO role', *iTnews*, 7 May 2014.

3.14   In January 2015, then-Communications Minister, the Hon. Malcolm Turnbull MP, announced a change in approach to strategic ICT leadership with the creation of the Digital Transformation Office (DTO) to drive the Government's new Digital Transformation Agenda. The DTO, which commenced operation in July 2015 with Mr Paul Shetler at the helm, is classified as a standalone 'Executive Agency'.[113] As such, it reports directly to the Executive via the Assistant Minister for Cities and Digital Transformation, Hon. Angus Taylor MP.[114]

3.15   Similar to the New Zealand and Queensland ICT leadership roles, a key element of the DTO's mandate is to deliver better value, a more efficient and skilled workforce, and a better service experience for citizens and businesses. However, the DTO's main focus appears to be on the service delivery component. This is evident in the DTO's 'vision' to provide a 'simpler, clearer, faster public service' for those seeking to interact with government via digital channels.[115]

3.16   In terms of outcomes, the DTO has been asked to 'improve the user experience for all Australians accessing government information and services'.[116] Responsibilities the DTO has assumed to facilitate this outcome include:

- 'Supporting agency digital delivery of high volume services … [that] are simpler, clearer, and faster';

- Delivering 'whole-of-government common platforms' for informational and transactional services;

- Building a 'digital culture';

- Developing policies and standards 'to support consistent service transformation across government agencies'; and

- 'Building digital leadership and capability across government agencies.'[117]

3.17   The DTO was established using $95 million from a $255 million block of funding allocated to support the Digital Transformation Agenda. Its current annual

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113 Australian Public Service Commission, 'APS Agencies', 8 July 2016. See also section 67 *Public Service Act 1999* (CWTH).

114 Renai LeMay, 'Turnbull's Digital Transformation Office gets a new Minister', *Delimiter*, 15 February 2016.

115 Australian Government Digital Transformation Office, 'About us', no date.

116 Australian Government Department of Communications and the Arts, 'Entity resources and planned performance', DTO Budget Statements (2015-16), no date, p. 133.

117 ibid., p. 134.

operating expenditure was set at $35 million for 2016-2017 and it is expected to settle at around $25 million per year from 2017-18.[118]

3.18   While it is still in the process of recruiting, the DTO has approval to employ up to 74 staff across 11 'project teams'.[119] These teams include a Digital Service Standard Team, which is responsible for establishing the criteria government agencies are expected to follow to develop 'simpler, clearer, and faster' transactional and informational services.[120] Another team is dedicated towards further developing the Gov.au website as an online one-stop shop for accessing government services. Other teams are working on initiatives including a 'Digital Marketplace' to improve processes for small business that deal with government agencies, and a whole-of-government policy framework to 'support digital transformation.'[121]

3.19   While the Australian Government has not imposed a savings target upon the DTO, the office is still subject to a range of performance targets. These are quite varied with some linked to achieving higher levels of positive stakeholder feedback and agency adherence to the Digital Service Standard. Other targets are linked to the DTO's delivery of a public beta of Gov.au and the Digital Marketplace, as well as the establishment of a secure and intuitive single ID from which all online government services can be accessed.[122]

3.20   Under the Digital Transformation Agenda, agencies retain a fair degree of autonomy when investing in ICT solutions to support back office operations. In this respect, they continue to operate predominantly under procurement policies and whole-of-government commercial arrangements (supplier panels) overseen by the Department of Finance. However, in terms of investment decisions relating to 'citizen focused service delivery', agencies are expected to operate within the framework established by the DTO as part of the Digital Transformation Agenda.[123]

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118 Australian Government Department of Communications and the Arts, 'Entity resources and planned performance', DTO Budget Statements (2015-16), no date, pp. 130,133.

119 ibid., p. 133; Australian Government Digital Transformation Office, 'Contact us', no date.

120 Australian Government Digital Transformation Office, 'Digital Service Standard', 6 May 2016.

121 Australian Government Digital Transformation Office, 'Contact us', no date.

122 Australian Government Department of Communications and the Arts, 'Entity resources and planned performance', DTO Budget Statements (2015-16), no date, pp. 134-135.

123 Hon. Malcolm Turnbull MP, Prime Minister, 'FAQs: The Digital Transformation Office', 23 January 2015.

Summary of strategic ICT leadership roles in other Australian jurisdictions

NSW

3.21   Strategic ICT leadership roles in NSW have alternated over the last 11 years. The state appointed its first whole-of-government CIO in 2005.[124] In 2011, the role was reduced considerably and incorporated into the position of Director General Department of Financial Services.[125] A Government ICT Board was then established to set the strategic direction for ICT across the sector, monitor projects and report on agency compliance with 'agreed objectives and targets.'[126]

3.22   In May 2016, the NSW Government confirmed the establishment of a new Chief Information and Digital Officer (GCIDO). The GCIDO has been given a broad and influential remit, which includes 'defining the long-term vision for ICT and digital technologies.'[127] The role will also oversee 'major government ICT projects' and will be required to approve and oversee major projects undertaken at the agency level.[128] Mr Damon Rees was appointed as the GCIDO and commenced his role on 30 May 2016. While the ICT Board continues to operate, the extent to which it will interact with the GCIDO remains unclear at this time.

South Australia

3.23   In South Australia, the position of Government CIO was dissolved in early 2015. It has been replaced by a Director of Digital Government who heads up a new Office for Digital Government, located within the South Australian Department of the Premier and Cabinet.[129] The Office for Digital Government's role includes supporting agencies 'to transform services to digital' and providing a policy framework to improve government service delivery for South Australians.[130]

Tasmania

3.24   Similar to South Australia, Tasmania operates without a Government CIO, relying instead on an Office of eGovernment located within the Tasmanian Department of Premier and Cabinet. This office has a variety of roles including the provision

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124   'NSW government names CIO', *ZDNet*, 7 February 2005.

125   Paris Cowan, 'NSW government names new CIO', *iTnews*, 18 July 2013; Mr William Murphy, Deputy Secretary, Services and Digital Innovation, Department of Finance, Services and Innovation (NSW), Briefing, 9 March 2016.

126   Liz Tay, 'Chosen few to advise on NSW Government ICT', *iTnews*, 7 July 2011.

127   Dominic Perrottet MP, Minister for Finance Services & Property, and Victor Dominello MP, Minister for Innovation and Better Regulation (NSW), 'New Chief to Drive NSW Digital Agenda', Media Statement, 17 May 2016.

128   ibid.

129   Paris Cowan, 'SA premier's department recruiting IT chief', *iTnews*, 20 April 2015.

130   Department of the Premier and Cabinet (SA) 'Office for Digital Government', 2015.

of 'policy advice, leadership, and capability building to improve the use of ICT and information across government.'[131] This office also supports an ICT Policy Board that was established in 2010 to advise the Premier on a range of matters including the 'strategic directions for ICT within government.'[132] It also monitors the performance of agencies against the state's ICT strategy.

Victoria

3.25   The Victorian Government created a Chief Technology Advocate (CTA) position in March 2013. The CTA was established to oversee delivery of the state's ICT strategy and to coordinate ICT across Victoria's government sector. This CTA's initial focus was to 'deliver better services, reduce waste, encourage innovation and improve ICT procurement across government.'[133]

A Government Chief Information Officer for Western Australia

3.26   As noted at 2.27 above, WA has trailed other jurisdictions in Australia and abroad in committing to an ICT strategic leadership position across government. This issue has now been addressed with the WAGCIO commencing operations 1 July 2015:

> *… to influence and lead effective ICT investment, stabilise ICT costs, deliver an ICT strategy and enhance ICT project outcomes across the sector in collaboration with government agencies and industry*.[134]

Finding 2

The Government of Western Australia Office of the Government Chief Information Officer (WAGCIO) commenced operations on 1 July 2015. The WAGCIO was established to influence and lead effective ICT investment, stabilise ICT costs, deliver an ICT strategy and enhance ICT project outcomes across the sector in collaboration with government agencies and industry.

Structure and responsibilities

3.27   The WAGCIO's overall remit is broadly similar to those in New Zealand and other jurisdictions. The Government has indicated that the 'initial focus' of the WAGCIO will be on stabilising ICT expenditure and improving transparency 'in

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131 Office of eGovernment (TAS), 'Business Plan 2015-16', no date, p. 1.

132 Office of eGovernment (TAS), 'About us', 18 February 2014; Government of Tasmania, 'ICT Policy Board Charter and Terms of Reference', May 2010, pp. 1-2.

133 Department of State Development, Business and Innovation (VIC), 'Chief Technology Advocate', 14 October 2014.

134 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, Cover Letter, p. 1.

the delivery of major projects'.[135] In addition, the WAGCIO will be expected to 'increase value for money and minimise risk in the delivery of ICT across the public sector'.[136]

3.28 The WAGCIO has been given five explicit responsibilities within this remit, the first of which is to develop a whole-of-government ICT strategy and accompanying 'policy and reform agenda'.[137] Consistent with its counterpart offices in other jurisdictions observed by the Committee, the WAGCIO is also required to identify and advise agencies on how ICT innovations can be used to improve the delivery of public sector services.[138] The other three responsibilities involve:

- 'advising on governance and implementation of ICT projects…;

- promoting ICT standardised approaches across government; and

- implementing frameworks which improve public sector capability and capacity [in ICT].'[139]

3.29 The WAGCIO is based within the Department of Finance and reports to the Minister for Innovation. The most recent Government budget papers state that the Office has been established 'for a period of three years' using some of the $25 million in funding that was made available through the establishment of an ICT Renewal and Reform Fund (IRRF).[140]

3.30 The WAGCIO has been given an annual appropriation of around $9 million up to and including the 2017-18 financial year. In its current form, the Office is markedly smaller than its counterparts in New Zealand, Queensland, and Canberra, operating with just 15 full time staff distributed across four business

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135 Department of Treasury (WA), *2016-17 State Budget: Budget Statements*, Budget Paper No. 2 (Vol. 1), 12 May 2016, p. 439.

136 ibid., p. 440.

137 ibid.; Hon. Bill Marmion MLA, Minister for Innovation, WA, Legislative Assembly, *Parliamentary Debates - Estimates Committee B* (Hansard), 26 May 2016, p. 620.

138 Department of Treasury (WA), *2016-17 State Budget: Budget Statements*, Budget Paper No. 2 (Vol. 1), 12 May 2016, p. 440.

139 ibid.

140 The IRRF—which has also been set up for three years, will derive its revenue via a 15 per cent reduction in the ICT budgets of other agencies. The purpose of the IRRF is to 'expedite the delivery of ICT reform across the Western Australian public sector in an efficient and cost effective manner as approved by the Economic and Expenditure Reform Committee (EERC) and/or Cabinet.' See, Department of Treasury (WA), *2016-17 State Budget: Budget Statements*, Budget Paper No. 2 (Vol. 1), 12 May 2016, pp. 439,441,444; Hon. Bill Marmion MLA, Minister for Innovation, WA, Legislative Assembly, *Parliamentary Debates - Estimates Committee B* (Hansard), 26 May 2016, p. 618.

units.[141] Three people, including the WA Government Chief Information Officer, Mr Giles Nunis, are based in the Office of the Chief Executive. The others are distributed across three units covering: ICT Policy and Governance; ICT Strategy and Delivery; and Technology and Innovation.[142]

3.31   The WAGCIO has, thus far, been assigned just one performance measure, or 'key effectiveness indicator', developing and publishing a whole-of-government ICT strategy within 12 months.[143] The WAGCIO has satisfied this requirement with the release of *Digital* WA, the state's first whole-of-government ICT strategy on 26 May 2016 (see 2.27 above).

3.32   Seven other performance benchmarks have now been articulated in *Digital* WA. These KPI's are qualified to the extent that they are 'designed to measure the performance of the entire public sector' rather than the WAGCIO itself.[144] However, Mr Nunis will be required to report to Cabinet every six months 'on how compliance with the Strategy is being achieved by the sector as a whole.'[145] It is also important to note that these KPIs have been described as 'stretch targets for 2020 and beyond.'[146] As such, they may be subject to revision (up or down) via the governance bodies that have been established to oversee the roll-out of the Strategy.[147] The KPI's are listed verbatim in Table 1 below (next page).

141 Department of Treasury (WA), *2016-17 State Budget: Budget Statements*, Budget Paper No. 2 (Vol. 1), 12 May 2016, p. 438.

142 ICT Policy and Governance currently has 4 staff, ICT Strategy and Delivery has three, and Technology and Innovation has five. Mr Giles Nunis, Government Chief Information Officer (WA), Legislative Assembly, *Parliamentary Debates - Estimates Committee B* (Hansard), 26 May 2016, pp. 621-622.

143 Department of Treasury (WA), *2016-17 State Budget: Budget Statements*, Budget Paper No. 2 (Vol. 1), 12 May 2016, p. 440.

144 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 22.

145 ibid., p. 16.

146 ibid., p. 22.

147 ibid. These governance bodies are described in further detail in paragraph 3.42.

Table 1 Whole-of-government KPIs for ICT reform as outlined in *Digital* WA[148]

KPI Category	KPI Benchmark
STABILITY (of ICT project and service delivery)	**No. 1:** >90 per cent of the ICT components of major projects are completed on time and within budget.
	No. 2: >90 per cent of government digital services meet or exceed agreed and published service levels.
EFFICIENCY (in the cost of delivering ICT services)	**No. 3:** >10 per cent overall reduction in the annual cost of delivering current (2016-17) ICT services by the end of the [*Digital* WA] Strategy, aggregated across the sector.
	No. 4: >90 per cent of ICT reinvestment plans deliver the targeted return on investment (ROI) from savings made through the Strategy or agency ICT reforms.
TRANSPARENCY (in ICT governance and service delivery)	**No. 5:** >90 per cent of agency chief executives are confident in the quality of their ICT governance to inform good decisions.
	No. 6: >75 per cent of financial and information service transactions with the public are done through digital channels.
CAPABILITY (of the public sector to respond to changing community needs)	**No. 7:** >90 per cent of agencies reach maturity level 3 or higher in all strategic core capabilities.[149]

3.33   As with the strategic ICT leaders in New Zealand, and other Australian jurisdictions, the WAGCIO does not have a mandate to run the ICT operations of individual agencies. *Digital* WA confirms that agencies 'will retain responsibility for, and control over, how their ICT is delivered.'[150] That said, the WAGCIO is in the early stages of establishing a whole-of-government commercial structure—similar to that in operation in New Zealand—that will enable agencies to procure a variety of standardised "as-a-service" product offerings under consumption-based pricing models.[151]

3.34   This structure is being implemented through a program called GovNext-ICT, under which the WAGCIO has approached the ICT industry seeking to establish a small panel of head contractors for the supply of computing, storage, and various cloud services, as well as a unified government communications network.'[152] Nine agencies have committed to the initial process, which may

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148 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 22.

149 For the full list of the core capabilities, refer to ibid., pp. 39-40.

150 ibid., p. 23.

151 Refer to paragraphs 2.12 through 2.14 above for the earlier explanation of as-a-service products and consumption-based pricing.

152 Mrs Stephanie Black, A/Director General, Department of Finance, Letter, 6 April 2016, Attachment A.

culminate in a series of whole-of-government contracts valued at as much as $3 billion.[153] (Note: GovNext-ICT is discussed further in Chapter Six).

3.35   In terms of oversight, the WAGCIO's remit does not appear to be as broad as its counterpart offices in New Zealand and Queensland. For example, the WAGCIO is not formally required to review business cases or provide a second line of advice to Ministers on the merits of a particular ICT project.[154] Nonetheless, the WAGCIO is required to 'provide oversight of key strategic projects' and report on the status of such projects to Cabinet.[155]

3.36   As is the case in New Zealand, the WAGCIO will have capacity to intervene 'to stabilise cost and optimise outcomes'[156], although the scope of this power appears to be more limited. When asked by the Committee to explain his intervention powers, Mr Nunis referred to an example where he had once achieved significant price reductions on contractual negotiations after being invited onto a project board at WA Health. Elaborating further, Mr Nunis appeared to indicate that similar interventions by the WAGCIO will only take place if requested by an agency:

> *We will attempt to try and bring as much commercial reality to the way in which projects are proposed by vendors into the government. If we get invited, we will participate if it is of some significance.*[157] [Emphasis added]

3.37   Finally, notwithstanding part of the WAGCIO's remit to 'influence and lead effective investment in ICT' (see 3.26 above), the frameworks that aim to promote best practice in ICT procurement remain the responsibility of the Government Procurement unit within the WA Department of Finance (Finance).

3.38   Government Procurement currently provides policy documentation, services and support to agencies in all aspects of ICT (and non-ICT) procurement processes.[158] Finance has advised that it is currently seeking to strengthen all of its procurement policy frameworks and its agency education programs. It has also

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153 Mrs Stephanie Black, A/Director General, Department of Finance, Letter, 6 April 2016, Attachment A.

154 While no formal referral structures have been established, Mr Nunis advised the Committee that any significant ICT proposals will be referred to his office by Treasury through an informal process. Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, pp. 9-10. Note that this aspect of the WAGCIO's role will examined in Chapter Five when the Committee looks in detail at governance structures in place for ICT investment in WA.

155 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 6.

156 ibid., p. 8.

157 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, p. 10.

158 Submission No. 3 from Department of Finance (WA), 25 August 2015, p. 1.

confirmed that its Government Procurement unit will work collaboratively with the WAGCIO to 'take a proactive part in agencies' development of [ICT] business cases, procurement strategies and plans, and in the management of contracts.'[159]

3.39   This structure is similar to that observed in New Zealand (and within the Federal Government), where the government procurement officers work in collaboration with, but independent of, the NZGCIO and DTO respectively.

Current achievements

3.40   The WAGCIO has managed several key accomplishments in its first 12 months of operation. In addition to the completion of *Digital* WA, the WAGCIO has also released six accompanying policy documents to guide agencies across a range of areas relevant to the early stages of WA's ICT reform agenda. These policies are listed in Table 2 below (next page).

3.41   With the exception of the Open Data Policy, these documents are quite broad. None are designed to be 'overly prescriptive'.[160] The WAGCIO has indicated that it will be providing further guidance on these policies by December 2016 through various toolkits, guidelines and fact sheets.[161]

3.42   Other achievements of the WAGCIO include the creation of a Directors General ICT Council to oversee the implementation of *Digital* WA and the associated ICT reform agenda. The Council currently comprises ten Directors General (or their delegates) from some of the largest government agencies[162] and is chaired by Mr Nunis. The Council is supported by a CIO Advisory Committee, also chaired by Mr Nunis, which is made up of ten senior technologists from across sector.[163]

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159 Submission No. 3 from Department of Finance (WA), 25 August 2015, p. 3; Mrs Stephanie Black, Executive Director, Government Procurement, Department of Finance, *Transcript of Evidence*, 23 March 2016, p. 2.

160 Office of the Government Chief Information Officer (WA), 'ICT Policies: Framework for Collaboration', 2016.

161 See, for example, Office of the Government Chief Information Officer (WA), 'Cloud Policy', 25 May 2016.

162 The Departments of: Commerce; Corrective Services; Education; Finance; Health; Housing; Treasury; Transport; WA Police; and Landgate.

163 Including the CIOs or Directors of ICT from the departments of: Commerce; Finance; Health; Parks and Wildlife; Premier and Cabinet; Transport. The other agencies represented on this committee are GESB; Landgate; and the Metropolitan Cemeteries Board.

Table 2 Summary of whole-of-government ICT policies developed and published by the WAGCIO

Policy Title (and theme)	Purpose
ICT Business Continuity and Disaster Recovery	Directions to guide agencies on establishing ICT business continuity management frameworks to deal with outages that might impact services at an agency or whole-of-government level.[164]
Digital Security	Guidance to agencies on the minimum requirements expected around establishing systems to protect critical data and to protect against threats to systems from digital sources.[165]
Digital Services	Outline the path by which the Government expects agencies to move towards providing and managing 'digital service offerings for the community.'[166]
[ICT Systems] Interoperability	Seeking to improve the quality, consistency, and responsiveness of government services by 'ensur[ing] that systems across the public sector can seamlessly interact, exchange data and, if necessary, share functions and resources.'[167]
Cloud	Encouraging agencies to move away from owning ICT assets by establishing a 'cloud mindset for the consumption of infrastructure, software and platforms and encourage the widespread adoption of cloud services'.[168]
Open Data	Looking to improve how data held by agencies is managed and used 'in order to deliver value and benefits for all Western Australians.'[169]

3.43 In the commercial sphere, proceedings under the GovNext-ICT initiative (see 3.34 above) are well advanced. The original expression of interest attracted 73 responses, which have since been reduced to a short-list of six preferred vendors. The WAGCIO is currently in the process of evaluating the final detailed proposals that were sought from these six vendors in May 2016. It is expected that a panel of between two and three vendors will be selected from this group with head contracts signed by early November.[170]

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164 Office of the Government Chief Information Officer (WA), 'ICT Business Continuity and Disaster Recovery Policy', 25 May 2016.

165 Office of the Government Chief Information Officer (WA), 'Digital Security Policy', 24 May 2016.

166 ibid.

167 Office of the Government Chief Information Officer (WA), 'Interoperability Policy', 24 May 2016.

168 Office of the Government Chief Information Officer (WA), 'Cloud Policy', 25 May 2016.

169 Office of the Government Chief Information Officer (WA), 'Whole of Government Open Data Policy', 3 July 2015.

170 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 2; Ms Marion Burchell, Acting Executive Director, Policy and Governance, Office of the Government Chief Information Officer (WA), Telephone, 12 September 2016.

A whole-of-government ICT strategy for Western Australia

3.44   It is clear that some of the WAGCIO's most significant early work has revolved around the development of *Digital* WA (or the Strategy). As previously noted, prior to *Digital* WA*'s* release in May 2016, WA remained the only Australian state without a whole-of-government ICT strategy (see 2.27 above).

3.45   *Digital* WA was developed in consultation with the Directors General ICT Council and is applicable to all public sector agencies, statutory authorities and government trading enterprises.[171] The Strategy outlines 'a vision' whereby technological advances will be used to provide better government services at a lower cost to taxpayers. The Strategy also seeks to 'accelerate the pace of digital transformation across the public sector.'[172] Mr Nunis has provided a succinct description of the future that *Digital* WA is aiming to deliver:

> *Government services will increasingly become digital, delivered online and conveniently accessible through a single whole of government portal. Interoperable systems and networks will allow seamless connectivity and service delivery between agencies. High quality data from across the entire public sector will drive analytics for government decision making, and result in more and more open data being provided to the community. Effective use of cloud and other pay-as-you-go options will allow government to move away from owning and maintaining expensive ICT assets, and instead reinvest in improving service delivery to the community.*[173]

3.46   The path towards this ambitious and comprehensive agenda is guided by eight 'Roadmap Theme[s]', which are listed in Table 3 below (next page).

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171 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 3; Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, p. 8.

172 Hon. Bill Marmion MLA, (Minister for State Development; Finance; Innovation),*Western Australia shifts to digital innovation*, Media Statement, 25 May 2016; Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 7.

173 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 6.

Table 3 *Digital* **WA Roadmap Themes**[174]

Roadmap Theme	Intended Outcome
Technology Platforms	Cheaper access to better technology across the sector.
Digital Security	Trusted and appropriate security for data and transactions.
Online Self-Service	Easier access to more government digital services.
ICT Business Management	Better and more efficient management of ICT resources.
Sourcing and Innovation	Improve how government finds and procures ICT services.
People Capability	Identify and address gaps in workforce digital skills.
Information and Analytics	Combine and use quality data to inform decision-making.
Government and Strategic Policy	Direction for transparent ICT decisions in government.

3.47   Each Roadmap Theme has an accompanying set of implementation initiatives, or 'deliverables'.[175] Each initiative—there are 35 in total—has been assigned an 'indicative and high-level' timeframe for implementation, which may be revised following further assessments as to their practicality.[176] These timelines apply only to the development of an initial pilot by 'Lead' agencies, which are agencies for whom the initiative is deemed a top priority and who are seen as 'key partner[s]' in its planning and governance. Adoption dates for each initiative by other agencies are not stipulated at this stage, but are expected to 'extend beyond the lifetime' of the Strategy'.[177] A selection of the more significant initiatives, and their implementation timeframes, are included in Table 4 below (next page).

3.48   While the Directors General ICT Council has oversight of the Strategy at a whole-of-government level, responsibility for individual programs and projects will rest with 'senior business and ICT executives' from across the sector.[178] Mr Nunis will use the information obtained through this governance structure as the basis of his six monthly reports to Cabinet (referred to at 3.32 above), which will include updates on the seven KPIs (listed earlier in Table 1). KPI reporting will commence

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174 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 14.

175 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 8.

176 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 14.

177 ibid., p. 19.

178 ibid., p. 7.

after the WAGCIO completes a benchmarking exercise, which will set 2016-17 as the baseline year for each indicator.[179]

Table 4 Selection of Roadmap Deliverables from *Digital* WA[180]

Roadmap Theme	Roadmap Initiative	Timeframe
Technology Platforms	GovNext-ICT	Q2 2018
	Rationalisation of software requirements (across the public sector)	Q4 2018
Digital Security	Digital Identity (for consumers)	Q4 2017
	Digital Identity Access Management (for public sector agencies)	Q1 2018
Online Self-Service	Initial portal for online one-stop shop	Q4 2016
	Portal personalisation (creating individual customer profiles for quicker transacting)	Q4 2019
ICT Business Management	Government ICT project and performance dashboard (public access)	Q4 2018
Sourcing and Innovation	Agile Procurement Framework	Q4 2017
	Government Solutions Marketplace	Q3 2019
People Capability	ICT Leadership Program	Q2 2017
	Digital Workforce Plan	Q2 2019
Information and Analytics	Open Data Portal (further development for community and businesses)	Q4 2016
	Secure Data Exchange Government Analytics (for public sector agencies)	Q2 2020
Government and Strategic Policy	ICT Strategy review and baseline KPIs	Q2 2017
	ICT Governance Framework	Q2 2017

3.49   In addition to these oversight measures, the WAGCIO will review the entire strategy each year and provide an update on targets, timeframes, and general progress through a variety of documents including an annual Implementation Plan.[181] Transparency and accountability will be further promoted via an ICT Risk Register that will record and publish developments at a whole-of-government and agency-specific level that 'may impact the Strategy.'[182] This register will be available to all agencies and members of the public.

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179 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, pp. 22,28.
180 Taken from the list of 35 as outlined in: ibid., Appendix One.
181 ibid., pp. 16,18,22,38.
182 ibid., p. 21.

3.50   For government agencies, compliance requirements relating to *Digital* WA
        appear to be variable and still in the process of being established. When
        discussing the Strategy with the Committee, Mr Nunis explained:

> *It is more of a framework. It is not meant to be a dictatorship around*
> *what you must do; it is more around what standard you should try to*
> *achieve.*[183]

3.51   Despite this comment, it does appear that there will be some level of
        compliance expected. The Strategy confirms that agencies will be advised of any
        mandatory compliance requirements via policies, standards, or frameworks that
        are developed as part of the suite of Roadmap implementation initiatives. The
        Strategy also confirms that Cabinet or the Directors General ICT Council may
        proclaim that some initiatives will operate under an opt-out basis (although
        which initiatives this edict applies to remains unclear). In these circumstances,
        permission to opt-out will be contingent upon the submission, and subsequent
        approval, of a business case explaining the rationale for an exemption. In all
        other instances, participation in Roadmap initiatives 'will be on an opt-in
        basis.'[184]

Committee's view

Office of the Government Chief Information Officer (WA)

3.52   The actions of nearby jurisdictions demonstrate that strategic leadership is seen
        as fundamental to improving outcomes from ICT investment. More and more
        governments are establishing strategic ICT leadership positions to coordinate a
        consistent approach to ICT investment in order to improve productivity, reduce
        costs, and make services better and more accessible (see 2.26 above).

3.53   While this argument appears to be intuitive, it is still too early to judge its
        validity given that Australian jurisdictions are in the relatively early stages of
        their current reform programs. However, the results being achieved in New
        Zealand—where the NZGCIO's role has been evolving over eight years—suggest
        that the strategic leadership concept has significant merit.

3.54   It is encouraging to note that the establishment of the WAGCIO has been
        welcomed by key government agencies, as evidenced by the participation of ten
        agency heads in the Directors General ICT Council. One of the Council's

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183 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*,
     18 November 2015, p. 9

184 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian
     Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May
     2016, p. 20.

participating members is Ms Sharyn O'Neill, the Director General of the Department of Education. In her department's submission to this Inquiry, Ms O'Neill stated that the creation of the WAGCIO 'has the potential to be a positive influence on the better use of technology in Government.'[185] Ms O'Neill went on to suggest that 'a lack of clear direction from Government' in this area has enabled agencies to implement ICT solutions 'in a siloed manner' leading to sub-optimal outcomes.[186]

3.55   The ICT industry has expressed similar positive sentiment. The AIIA has stated that it hopes, through the WAGCIO, to establish 'a new level of engagement with government' through which it might be possible to 'deliver truly transformation[al] change through ICT.'[187]

3.56   The establishment and early work of the WAGCIO has also been recently recognised by the government ICT analytical firm, *Intermedium.* In its latest evaluation of digital transformation across Australia's federal, state and territory jurisdictions, *Intermedium* has judged WA to have shown the greatest rate of progress over the last 12 months.[188]

3.57   The Committee shares the optimism of agencies and the ICT industry regarding the potential benefits to be derived from establishing the WAGCIO. Certainly, the need for a strategic leadership role to guide agencies had become compelling in light of the state's poor reputation for government ICT investment (see 2.49 above). There is also plenty of scope for WA to improve the quality and range of services that government agencies can deliver via digital channels. The Committee supports the creation of the WAGCIO for these purposes.

3.58   As the Committee became increasingly convinced of the WAGCIO concept throughout this Inquiry, it sought to find out how Mr Nunis and his team might benefit from the experiences of other jurisdictions further ahead on their reform journeys. It is in that context, that the following comments are offered.

3.59   The WAGCIO has been tasked with undertaking a broad and ambitious program of reform, similar in scope to that currently being undertaken in New Zealand and some other parts of Australia. For instance, the WAGCIO's GovNext-ICT

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185 Submission No. 17 from the Department of Education (WA), 25 September 2015, Cover Letter.

186 ibid., p. 2.

187 Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, Appendix One, p. 15.

188 *Intermedium* has compared Australian jurisdictions using a Digital Government Readiness Indicator, which produces a score out of ten based on eleven key criteria across six categories. In July 2016, WA achieved a score of 6.1. While this represents a 72 per cent increase on the score from 12 months ago, WA still remains behind several leading jurisdictions including NSW (9.4), Queensland and South Australia (7.4) and Victoria (7.3). Jeremy Blowes, 'Digital Transformation Readiness Indicator: July 2016 update', *Intermedium*, 26 August 2016.

initiative seeks to establish a whole-of-government consumption-based pricing commercial framework similar to the one that is continuing to evolve after five-years in New Zealand. The WAGCIO is also looking to improve the accessibility and quality of government services available via digital channels. This work is similar to initiatives already being undertaken by the NZGCIO, the Australian Government's DTO, and within the department in NSW where a Government Chief Information and Digital Officer has been recently appointed.[189]

3.60　In addition to these tasks, the WAGCIO is working on establishing an ICT project monitoring and reporting regime comparable to that already evident in Queensland, and under development by the DTO. While conducting preliminary work in all these areas, the WAGCIO has also delivered the state's first whole-of-government ICT strategy. Based on the reform Roadmaps outlined in that document, the WAGCIO has at least 30 other initiatives it is charged with either overseeing or implementing over the next four years.

3.61　The Committee acknowledges that these projects are all very worthwhile and necessary, and it commends the WAGCIO on its efforts to date. However, the Committee has two main concerns about the ongoing sustainability of the office in its current form.

Finding 3

The WAGCIO has been tasked with undertaking a broad and ambitious program of reform, similar in scope to that currently being undertaken in New Zealand and some other parts of Australia.

While the Committee commends the WAGCIO on its efforts to date, it has concerns regarding the ongoing sustainability of the Office in its current form.

3.62　The first of these concerns relates to ongoing funding. As noted at 3.29 above, the current budget papers confirm that the WAGCIO has been established for a period of three years and there is currently no funding provisioned in the forward estimates beyond the 2017-18 financial year. This is despite the fact the Office is responsible for managing a sweeping ICT reform strategy out to at least 2020, part of which involves negotiating whole-of-government contracts valued at up to $3 billion. The Committee acknowledges that the responsible Minister, Hon. Bill Marmion MLA, has advised that he 'envisage[s]' the Office 'will continue on past that date'.[190] However, given the importance that is attached to strategic ICT leadership in other jurisdictions, the Committee urges the government to provide greater certainty around the WAGCIO's future.

189　The development of on-line one-stop-shops for government services is covered in Chapter Eight.
190　Hon. Bill Marmion MLA, Minister for Innovation, WA, Legislative Assembly, *Parliamentary Debates - Estimates Committee B* (Hansard), 26 May 2016, p. 618.

Finding 4

The current budget papers state that the WAGCIO has been established for a period of three years with no further funding included in the forward estimates beyond the 2017-18 financial year. This is despite the fact the Office is responsible for managing a sweeping ICT reform strategy out to at least 2020.

Recommendation 1

The Minister for Innovation confirm that the Government of Western Australia Office of the Government Chief Information Officer (WAGCIO) will continue operating beyond the 2017-18 financial year.

3.63　The second concern relates to current staff numbers within the WAGCIO. The NZGCIO, the DTO, and the QGCIO are currently operating with approximate head counts of 80, 74, and 50 respectively. The WAGCIO, which is undertaking or planning to undertake many of the functions of these offices, is currently operating with 15 permanent employees, with most having come across from Finance.[191] The budget papers approve an increase to 19 by the end of 2016-17.

3.64　Minister Marmion told an Estimates Committee that 'we have a small budget to be a policy deliverer'.[192] The Minister added that while the WAGCIO had 15 permanent FTE positions, other FTEs would be acquired 'on a finite basis for the period of a particular project.'[193]

3.65　In reality, it appears that the WAGCIO's role now extends well beyond a policy focus. While the WAGCIO has a similar range of responsibilities to that of its counterpart offices in New Zealand and Queensland (and a similar budget in the case of Queensland), it has a fraction of the staff.[194] The Committee has met with the strategic leadership units in these jurisdictions and has observed their operational structures. In light of these meetings, the Committee questions whether the WAGCIO in its current form will have the required capacity to discharge its many responsibilities in an effective manner going forward.

191　Ms Anne Nolan, Director General, Department of Finance, *Transcript of Evidence*, 23 March 2016, p. 7.

192　Hon. Bill Marmion MLA, Minister for Innovation, WA, Legislative Assembly, *Parliamentary Debates - Estimates Committee B* (Hansard), 26 May 2016, p. 620.

193　ibid., p. 621.

194　The WAGCIO has received an annual appropriation of AUD$9 million for three years. By contrast, the NZGCIO operates off an annual budgeted allocation of NZD$8 million (plus service fee revenues – see paragraphs 3.4 and 6.28) and the QGCIO operates off an annual allocation of approximately AUD$8.7 million (see paragraph 3.12).

Chapter 3

Finding 5

The office of the New Zealand Government Chief Information Officer operates with a staff of approximately 80 people across at least five business units. The Queensland Government Chief Information Office operates with a staff of approximately 50 across six business units.

The WAGCIO, which is undertaking many functions similar to its counterpart offices in these jurisdictions, is currently operating with 15 permanent staff across four business units.

Finding 6

The Committee has met with both the New Zealand and Queensland Government Chief Information Office teams and has observed their operational structures. In light of these meetings, the Committee questions whether the WAGCIO, in its current form, will have the required capacity to discharge its many responsibilities in an effective manner going forward.

3.66   In the first instance, there are the commercial responsibilities of the WAGCIO to consider. By way of example, the NZGCIO has recently used four staff from his Commercial Strategy and Delivery team to establish a single common-capability contract for a whole-of-government Telecommunications-as-a-Service (TaaS) product offering. This group, working in conjunction with 45 staff from other agencies, held 70 workshops with the supplier market to inform the scope and structure of the specific requirements of this particular contract.[195] The TaaS contract is one of 14 common-capability contracts established by the NZGCIO since 2009.

3.67   In addition to the work of those officers, other members of the NZGCIO Commercial Strategy and Delivery team continue to manage the entire portfolio of contracts, monitor vendor performance, and provide ongoing advice to agencies as to how their ICT needs can be sourced through the portfolio of common-capability contracts.[196] Notably, procurement and contract management specialists are part of the full time staff of the NZGCIO.

3.68   In contrast, the WAGCIO's Technology and Innovation team, with a permanent team of five, is currently responsible for conducting the entire GovNext-ICT process. So far, the WAGCIO has engaged the services of 18.5 FTE from Finance's

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195 Mr Chris Webb, General Manager, Commercial Strategy and Delivery; Ms Jane Kennedy, Manager, All of Government ICT Commercial Services, Department of Internal Affairs (NZ), Briefing, 10 March 2016

196 Mr Dave Jackman, Manager, Common Capabilities, and Ms Jane Kennedy, Manager, All of Government ICT Commercial Services, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

Government Procurement Unit to assist with various aspects of GovNext-ICT. These FTE have been engaged for periods ranging from one day through to 21 weeks.[197] It is yet to be seen how the WAGCIO's team will evolve when the initial contracts for GovNext-ICT are signed in the coming months and agencies begin to procure under these arrangements. However, the Committee does note that plans are afoot to set up a GovNext-ICT Service Broker (GSB) unit to 'operate, maintain and drive the benefits realisation targeted from the GovNext-ICT Program.'[198]

3.69   Under current planning, it is hoped that the GSB will be established by the end of 2016.[199] While the size of the team and its specific responsibilities have not yet been confirmed, the WAGCIO has reported that it is seeking specialists in contract management, agency ICT operations, and enterprise ICT architecture planning.[200]

3.70   The NZGCIO also has a dedicated Relationship Management team to help agencies understand his ICT functional leadership mandate 'and what it means to them.'[201] The Relationship Management team does this through individual meetings and group workshops and by facilitating contact between like-minded agencies to encourage collaboration across the sector. This team has at least three specialist relationship managers to take calls from all agencies regarding any aspect of the NZGCIO's role.

3.71   It is not clear whether the WAGCIO intends to establish a similar team to help agencies transition through the changes that may occur courtesy of *Digital* WA. While the Strategy says that the WAGCIO 'will play a significant role in managing the change introduced by this Strategy across the sector'[202], there is no explanation as to how this will be done. The Strategy simply confirms that change management responsibilities will reside within the senior management level of an agency 'with additional support and value added by the [WAGCIO] as appropriate.'[203] Given the scope of its reform program, it is likely that the

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197 Ms Marion Burchell, Acting Executive Director, Policy and Governance, Office of the Government Chief Information Officer (WA), Email, 1 August 2016.

198 Office of the Government Chief Information Officer (WA), 'Business Impact Group and Chief Information Officer Advisory Committee – Communique', 22 June 2016.

199 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 37.

200 Office of the Government Chief Information Officer (WA), 'Business Impact Group and Chief Information Officer Advisory Committee – Communique', 22 June 2016.

201 Department of Internal Affairs (NZ), 'Relationship Management', 12 July 2016.

202 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 20.

203 ibid.

WAGCIO will field a significant number of inquiries from WA's various agencies, statutory authorities and government trading enterprises. Accordingly, thought should be given as to how this demand for information will be met. The establishment of a Relationship Management Team is an option worth considering.

3.72   The Committee was particularly interested in another key ICT position in place in New Zealand. The Government Stakeholder Manager acts as the NZGCIO's permanent liaison with Ministers, agency chiefs, and the head of the public service. Part of the role is to maintain lines of communication with these entities to ensure that the NZGCIO does not become the 'forgotten voice in terms of what agencies are thinking about'.[204] The Government Stakeholder Manager has a team of liaison officers, each assigned portfolios of up to six agencies.

3.73   It needs to be acknowledged the NZGCIO team has been in place for eight years and has had time to evolve. This should be taken into account when drawing comparisons with the current structure of the WAGCIO. However, signs of success with the New Zealand ICT reform program have been evident for some time now.

3.74   The NZGCIO's team is well on track to reach its target of NZD$100 million per year on sector-wide savings. Moreover, 120 agencies are already acquiring ICT solutions from the wide array of common capability contracts even though the majority of these contracts (9 out of 14) are not mandated.[205]

3.75   It appears to the Committee that ongoing communication has been a key contributor to this success. The NZGCIO has a highly motivated and appropriately resourced team of ICT (and procurement) leaders operating proactively as agents of change. This proactive approach and open lines of communication is helping agencies transition through what is, for some, a steep reform journey.

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204 Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

205 Mr Dave Jackman, Manager, Common Capabilities, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

Finding 7

The New Zealand Government Chief Information Officer has established two business units whose focus is on maintaining communication with key government stakeholders regarding the ongoing delivery of New Zealand's whole-of-government ICT reforms.

The Relationship Management team helps agencies understand the New Zealand Government Chief Information Officer's leadership role and what it means for their operations, while the Government Stakeholder Manager has a team of permanent liaison officers who continually interact with Ministers, agency chiefs, and the head of the public service.

3.76   The Committee believes that if WA is to replicate some of the success in ICT reform that is currently being enjoyed in New Zealand, a similar communication process needs to be established. Therefore, it urges the WAGCIO to look at the organisational structure in place in New Zealand when determining future staffing requirements. At a minimum, the Committee strongly encourages the establishment of a Government Stakeholder Management team to ensure that all Ministers and agencies are continually kept abreast of the WAGCIO's important reform agenda.

Recommendation 2

The WAGCIO consider the organisational structure in place within its counterpart office in New Zealand when determining future staffing requirements. At a minimum, the Committee strongly encourages the establishment of a Government Stakeholder Management team to ensure that all Ministers and agencies are continually kept abreast of the WAGCIO's important reform agenda.

Digital WA: Western Australia's first whole-of-government ICT strategy

3.77   The Committee acknowledges the WAGCIO team for its work in compiling *Digital* WA. The document largely addresses what agencies and the ICT industry had recognised was a lack of strategic direction from current and past governments around ICT investment.[206] In its submission, Ajilon argued that the provision of 'guidance to agencies on where to direct their ICT efforts' is a feature that is '[c]ommon to most jurisdictions with a successful approach to ICT'.[207] Ajilon's General Manager, Innovation and Strategy, Mr Paul Wilkins, was part of an AIIA delegation that sighted the draft version of *Digital* WA and provided input into its development. When asked by the Committee to comment on the final version, he observed:

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206 Submission No. 17 from the Department of Education (WA), 25 September 2015, p 2; Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, Appendix One, p. 5.

207 Submission No. 4 from Ajilon Australia Pty Ltd, 10 September 2015, p. 13.

> *As a whole-of-government strategy, it is fine. It is not what we would call leading edge. It is relatively conservative, but considering where WA has come from in this area, it is a major step forward.*[208]

Finding 8

The Committee acknowledges the WAGCIO team for its work in compiling *Digital* WA: *Western Australian Government Information and Communications Technology (ICT) Strategy 2016 – 2020* (*Digital* WA). The document largely addresses what agencies and the ICT industry had recognised was a lack of strategic direction from current and past governments around ICT investment in Western Australia.

3.78   The Committee believes that *Digital* WA compares reasonably well with the other government ICT strategies that have preceded it throughout Australia and New Zealand. The document wisely acknowledges that WA is looking to 'take advantage of the experience' of other jurisdictions 'further ahead in their digital transformations' by adopting elements of other strategies that have worked and avoiding proven problems.[209]

3.79   An example of this is the collaborative approach that the WAGCIO has taken with the industry and agencies when developing *Digital* WA. The NZGCIO team advised that this was a lesson they took from the development of their first ICT strategy in 2013. Having not taken enough input from stakeholders, the NZGCIO found 'there was a little bit of pushback with the first reform agenda'.[210] The New Zealand strategy was revised in 2015 under a much more collaborative approach that has been well received. This has led the NZGCIO to adopt a 'centrally-led, collaboratively delivered' philosophy for the ongoing roll-out of its reform program.[211]

3.80   The WAGCIO appears to have followed this lead. Rather than imposing a solution upon agencies and suppliers, the WAGCIO has developed *Digital* WA in consultation with the Directors General ICT Council, having taken input from industry groups such as the AIIA. This is likely to increase the level of support for the Strategy and its many and varied Roadmap initiatives.

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208 Mr Paul Wilkins, General Manager, Innovation and Strategy, Ajilon Australia Pty Ltd, *Transcript of Evidence*, 11 May 2016, p. 5.

209 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 18.

210 Mr Chris Webb, General Manager, Commercial Strategy and Delivery, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

211 Mr Duncan Reed, General Manager, System Transformation, and Mr Chris Webb, General Manager, Commercial Strategy and Delivery Department of Internal Affairs (NZ), Briefing, 10 March 2016.

Finding 9

The Committee believes that *Digital* WA compares reasonably well with the other government ICT strategies that have preceded it throughout Australia and New Zealand. The WAGCIO has compiled this strategy in consultation with many of the largest government agencies, through a Directors General ICT Council, and has also sought the input of groups representing the ICT industry.

A similarly collaborative approach has been undertaken in other jurisdictions (including New Zealand and Queensland) and this should increase the level of support for *Digital* WA among key stakeholders.

3.81 The Committee notes that the majority of *Digital* WA's 35 Roadmap initiatives are output-based rather than outcomes-based (see Table 4 above). This is similar to the approach taken by the New Zealanders who felt they needed to have some concrete actions upfront 'because we needed to get some runs on the board.'[212] The NZGCIO's General Manager, Commercial Strategy and Delivery, Mr Chris Webb, explained that 'if we had stayed too conceptual' with the first version of the strategy 'we may not have gained any momentum.'[213] The WAGCIO appears to have addressed this issue to some extent with many of *Digital* WA's Roadmap initiatives presenting relatively clear-cut actions, which are linked to broader outcome-based themes.

3.82 Importantly, the WAGCIO has followed the example of leading jurisdictions (including New Zealand, Queensland, and NSW) by publishing proposed target timeframes for each of its implementation initiatives. The WAGCIO has also committed to publishing annual Implementation Plans, which will provide additional detail on the progress of the overall reform program.

3.83 The Committee acknowledges that these timeframes have been described as 'indicative and high-level' and that they are only applicable to the development of pilot programs by agencies that are assigned 'lead' status for a particular initiative (see 3.47 above). Nonetheless, the Committee endorses this commitment to transparency by the WAGCIO and urges it to use the annual Implementation Plans to outline and explain any departures from the timeframes set for each Roadmap initiative in *Digital* WA.

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212 Mr Chris Webb, General Manager, Commercial Strategy and Delivery, Department of Internal Affairs (NZ), Briefing, 10 March 2016.
213 ibid.

Finding 10

Consistent with the approaches observed in other jurisdictions, the WAGCIO has outlined a set of implementation initiatives in *Digital* WA. Each initiative, there are 35 in total, has been assigned a 'high-level and indicative' timeframe by which pilot programs linked to each initiative are expected to have been developed.

3.84   The WAGCIO has also introduced a couple of other accountability measures that stand apart from the other jurisdictions with whom the Committee met. The first of these is an ICT Risk Register (see 3.49 above) to highlight developments across government, or within agencies, that might impact the delivery of the reform agenda. The Committee welcomes this approach as a means by which agencies struggling with the reform process can be identified and assisted, while those adopting an attitude of recalcitrance can be exposed and subject to greater scrutiny.

3.85   The other public accountability measure adopted by the WAGCIO is its publication of seven quantifiable KPIs from which to evaluate the overall success of the Strategy (see Table 1 above). While implementation plans have been commonly observed in the strategies of other jurisdictions, *Digital* WA appears to be the first throughout Australia and New Zealand to include such a set of KPIs. While the Committee commends the WAGCIO for its commitment to performance measurement and monitoring, it offers the following comment as a means by which this framework could be enhanced.

3.86   The first of the two efficiency-based KPIs listed in Table 1 above aims for an overall reduction of more than 10 per cent in the sector-wide annual cost of delivering current ICT services by the end of the 2020. Importantly, the WAGCIO has indicated that it intends to conduct a 'baseline measurement exercise' over the next 12 months to 'set the foundation year for the ICT Strategy.'[214] It is critical that this benchmarking exercise ascertains an accurate figure for the current annual ICT expenditure of agencies including both capital and operational components.

3.87   The urgency of this benchmarking exercise is underpinned by the fact that current estimates of the WA Government's ICT expenditure appear to be highly variable. In *Digital* WA, the WAGCIO puts the figure at 'more than $1 billion' per year 'including staffing and other internal costs'; a figure validly described as

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214   Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 22.

'unsustainable'.[215] In contrast, Minister Marmion has previously cited an annual figure of 'between $1 billion and $2 billion'.[216]

3.88   With the range of estimates so extreme, it is difficult to accurately quantify the savings that the Strategy is expected to derive. Set against the current estimates, the minimum 10 per cent cost reduction set as the KPI could generate anywhere between $100 and $200 million in annual savings by 2020. In the interests of accurate budget forecasting, this anomaly needs to be rectified. It is also critical that the WAGCIO obtain accurate figures for ICT expenditure at an individual agency level, so that it can identify and work with the agencies having the most difficulty controlling their costs.

3.89   While it is important to have a KPI focused on cost reduction, the Committee also thinks *Digital* WA's efficiency-based KPIs should address service delivery improvements attributable to ICT investment. Such a KPI might be based around the transactional capacity of the sector as a whole. It could be derived by collecting data from all relevant agencies on the volume of transactions performed through digital channels, the speed with which these transactions are completed, and the level of customer satisfaction with the services offered. The Committee believes such a KPI will help ensure that *Digital* WA does not inadvertently create a blind focus on ICT savings that might result in poorer outcomes for consumers of government services.

Finding 11

While *Digital* WA has many similarities with ICT strategies in other jurisdictions observed by the Committee, it does contain two accountability measures that set it apart.

The first is the commitment to establish a publicly accessible ICT Risk Register that will highlight developments across government, or within agencies, that might impact upon the delivery of the reform program outlined in *Digital* WA.

The second is the publication of seven quantifiable KPIs to measure sector-wide performance in meeting the Strategy's primary objectives.

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215 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 22.

216 Hon. Bill Marmion MLA, Minister for Finance, WA, Legislative Assembly, *Parliamentary Debates* (Hansard), 14 October 2015, p. 7312.

Finding 12

Included among *Digital* WA's seven KPIs is a benchmark seeking a minimum 10 per cent overall reduction in the annual cost of delivering current ICT services across the public sector by 2020.

Finding 13

The WAGCIO has indicated that it will conduct a baseline measurement exercise over the next 12 months to set the levels from which each of *Digital* WA's KPIs will be assessed.

It is critical that this benchmarking exercise ascertains an accurate figure for annual ICT expenditure across the public sector, as current estimates vary between $1 billion and $2 billion.

Recommendation 3

As part of its planned baseline measurement exercise, the WAGCIO obtain an accurate figure for the current annual ICT expenditure across the Western Australian public sector.

The WAGCIO should also obtain accurate figures for ICT expenditure at an individual agency level, so that it can identify and work with the agencies having the most difficulty controlling their costs.

Finding 14

While *Digital* WA contains efficiency KPIs focusing on cost reduction and return on investment from ICT savings, there are no targets relating to improvements in the quality of service delivery.

The introduction of such a KPI would help ensure that *Digital* WA does not inadvertently create a blind focus on ICT savings that might result in poorer outcomes for consumers of government services.

Recommendation 4

The WAGCIO introduce additional KPIs in *Digital* WA that focus on the quality of services offered as a result of investment in ICT.

Such KPIs might be based around the transactional capacity of the sector as a whole. They could be derived by collecting data from all relevant agencies on the volume of transactions performed through digital channels, the speed with which these transactions are completed, and the level of customer satisfaction with the services offered.

Chapter 4

Improving Outcomes: The Need for Reform Drivers within the Executive and the Bureaucracy

Barriers to successful ICT reform

4.1 Clearly, there is a trend among governments in Australia and New Zealand towards establishing strategic leadership positions to deliver coordinated ICT reform at a whole-of-government level. The Committee has observed this trend and agrees that there appears to be merit in this approach. Yet with any sector-wide reform process, the likelihood of success can be dependent upon the level of support for change within the Executive branch of government and the senior bureaucracy.

4.2 In the case of ICT reform, there is a heightened risk of this becoming a potential barrier. It is clear that one of the main cultural inhibitors to effective ICT investment by governments is a common misunderstanding at senior levels as to how technologies can be best used to improve business operations and outcomes (see 2.28 through 2.34 above). This remains a salient issue in WA with the AIIA confirming that one of the first issues the WAGCIO appeared to be addressing was 'the lack of ICT representation and/or appreciation for the potential of ICT in Cabinet and with the majority of agency executives.'[217]

4.3 The following observations highlight examples where ICT reforms have benefited from the persistence and drive of leadership from within the highest level of government. The influence of these champions of reform has often flowed on to the heads of government agencies and led to positive outcomes.

The need for reform leaders within the Executive

4.4 In NSW and New Zealand, and with the early stages of the DTO in Canberra, champions within the Executive branch of government have facilitated widespread support for ICT reform initiatives.

4.5 Dr Rachna Gandhi is the Chief Executive Officer of Service NSW, which is one of the most advanced one-stop-shop initiatives observed by the Committee (and is

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217 Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, Appendix One, p. 5.

detailed in Chapter Eight). According to Dr Gandhi, international experiences suggest that successful ICT reform needs support and engagement within the upper echelon of government. Quite simply, 'if it doesn't have the right backing, it is hard to get up.'[218]

4.6   Dr Gandhi cited the initial drive of former Premier Barry O'Farrell and the current backing by 'an extremely supportive Minister' as key factors behind the continued growth of Service NSW. It has also been critical to have other Ministers (and senior bureaucrats) subsequently sign-up to the service.[219]

4.7   The broader reform program in New Zealand has benefited from similar support. The New Zealand Government Chief Technology Officer, Mr Tim Occleshaw, confirmed that the work of the NZGCIO has been helped by having a Prime Minister who 'is quite interested in the technology space'.[220] The NZGCIO also has key backers throughout the Ministry. Explaining the genesis of New Zealand's 2013 ICT Strategy, the NZGCIO's General Manager, System Transformation, Mr Duncan Reed, told the Committee:

> *Ministers, particularly the Finance Minister, were open to the potential of ICT in terms of delivering government services in the future, but they wanted to know how much it was going to cost and how they were going to get there.*[221]

4.8   New Zealand's Ministers retain a keen interest in ICT through their participation in the Investment Ministers Group, a body which 'looks at large strategic ICT investments and examines project failures'.[222] This body originally operated as an ICT Ministers Group focusing exclusively on ICT investments, but its remit has since been widened to encompass other areas of government expenditure. The Group's roles now include 'understanding the direction and array of potential investments available' and 'scrutinising investments in development with a view to increase their likelihood of success.'[223]

4.9   Notably, Mr Occleshaw has indicated that 'the single most important factor' in getting agencies to embrace the reform agenda is the fact that the Finance Minister, the Hon. Bill English MP, who has driven the reforms since 2008,

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218 Dr Rachna Gandhi, Chief Executive Officer, Service NSW, Department of Finance, Services and Innovation, Briefing, 9 March 2016.

219 ibid.

220 Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

221 Mr Duncan Reed, General Manager, System Transformation, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

222 Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

223 The Treasury (NZ), 'Investment Ministers Group', 7 July 2016.

'consistently asks' for the NZGCIO's (and Treasury's) 'second line of advice on spending proposals.'[224] The Finance Minister's colleagues in the Ministry now adopt a similar approach, which seems to have led to wider recognition of the NZGCIO's functional leadership mandate and reform initiatives.

4.10   The importance of engaged leadership within government has also been observed by Datacom, which has invested heavily in supplying services under the NZGCIO's common capability contracts.[225]

Finding 15

Recent experiences from New Zealand and New South Wales (NSW) suggest that ICT reforms are more effective when there are engaged leaders within the Executive branch of government driving change and ensuring that agency heads respond appropriately.

Finding 16

Until 2014, the New Zealand Government operated an ICT Ministers Group to look at large strategic ICT investments and examine project failures. Since 2014, the group has expanded into a broader Investment Ministers Group, which now covers other areas of government expenditure in addition to ICT. The functions of this group include understanding the direction and array of potential investments available and scrutinising investments that are under way with a view to increasing their likelihood of success.

4.11   Another example of engaged leadership is evident with the Australian Government DTO, which has been set up and continually championed by the Hon. Malcolm Turnbull MP, firstly as the Communications Minister, and now as Prime Minister. The concept of the DTO has also been endorsed by the Federal Opposition, which has said '[r]egardless of who is in office, the work of the DTO should continue.'[226] With the DTO still in its early stages of operation, it is not possible to determine with any accuracy the extent to which other Ministers and agencies are embracing its agenda.

Current status in WA

4.12   As in Canberra, the ICT reform process in WA is in its early stages. Nevertheless, there has been an encouraging level of initial enthusiasm and support expressed by the responsible minister, Hon. Bill Marmion MLA.

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224 Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

225 Submission No. 7 from Datacom, 11 September 2015, p. 11.

226 Mr Ed Husic MP, 'Why Turnbull's Digital Transformation Office should sort out the backyard first', *Australian Financial Review* (Online), 19 April 2016.

4.13   In an Estimates Committee discussion around what the WAGCIO will do to improve the interoperability of data systems between agencies, Minister Marmion made clear his expectations around agency participation in this aspect of the reform agenda:

> *We need someone to drive this, and to drive it damn hard …. I am an outcome-focused person. If any department is a bit slow, I will be dealing directly with the Minister. I am doing that already.*[227]

Committee's View

4.14   The Committee welcomes the attitude of the Minister in his early promotion of the WAGCIO. However, for the WAGCIO to realise its future vision for ICT in WA, it is important that other Ministers are equally invested in the work this office is undertaking. In this respect, the Committee sees merit in the Government establishing a Cabinet sub-committee for ICT investment based on the concept of the ICT Ministers Group that originated in New Zealand (see 4.8 above).

4.15   The Committee notes that the WAGCIO is already required to report to Cabinet. However, it sees this sub-committee as a means by which senior Ministers could meet both with, and independently of, the WAGCIO to improve their awareness of the potential and challenges that ICT presents to their respective portfolios. This would further promote the cultural shift around ICT that is arguably needed in the highest levels of government and the bureaucracy in WA.

Finding 17

The Committee acknowledges the early efforts of the Minister for Innovation in promoting the work of the WAGCIO. However, for the WAGCIO to realise its future vision for ICT as outlined in *Digital* WA, it is important that other Ministers are equally invested in the work this office is undertaking.

Recommendation 5

The Government establish a Cabinet sub-committee for ICT investment based on the concept of the New Zealand Government Investment Ministers Group. The purpose of this sub-Committee should be to allow senior Ministers to meet, both with and independently of the WAGCIO, to improve their awareness of the potential and challenges that ICT presents to their portfolios.

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227 Hon. Bill Marmion MLA, Minister for Innovation, WA, Legislative Assembly, *Parliamentary Debates - Estimates Committee B* (Hansard), 26 May 2016, p. 620.

Engaging agency heads in the process of ICT reform

4.16   Another trend the Committee has observed is the introduction of bodies that are designed to give agency heads a high degree of ownership over the direction and implementation of ICT reform across government.

4.17   In NSW, the ICT Board referred to previously (at 3.21 above) has operated since 2011 and currently has ten members: these include Secretaries from nine of the largest government agencies and the Deputy Secretary of the Department of Premier and Cabinet. For the last five years—while NSW operated without a government CIO—this group has overseen the strategic direction for ICT and advised the Government on sector-wide priorities.

4.18   The Board is supported by an 18-member ICT Leadership Group, which comprises mostly of agency CIOs. This group offers the technical expertise required to ensure that 'strategic decisions are translated into outcomes at an organisational level across government.'[228] The Board has generally met between four and five times a year and has released broad level communiques which have conveyed the decisions they have made and the topics they have discussed.[229] While not yet confirmed, it is likely that the Board will collaborate with the newly appointed Government Chief Information and Digital Officer (3.22 above).

4.19   In Queensland, a ten-member Directors-General ICT Council was established in 2014. The Council's responsibilities include 'ensuring appropriate consideration' is given to the current ICT reform program and 'its integration into the broader whole-of-government agenda.'[230] The Council also updates government on the progress of 'ICT renewal across government.'[231] The group receives advice from the QGCIO while agency CIOs have responsibility for 'delivering ICT change into their department as directed by the Council and agreed to by their Director-General.'[232]

4.20   In 2009, the Australian Government created a Secretaries ICT Governance Board (SIGB) directly in response to the Gershon Report (see 2.22 above). The SIGB comprised nine departmental secretaries or chief executives and was charged with a range of tasks including the development and oversight of whole-of-government ICT strategies and policies. It was also required to report to the

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228   Department of Finance, Services and Innovation (NSW), 'Governance: ICT Leadership Group', no date.

229   Department of Finance, Services and Innovation (NSW), 'Governance: ICT Board', no date.

230   Department of Science, Information Technology, Innovation and the Arts (QLD), *Queensland Government ICT Strategy 2013-17: action plan*, August 2013, p. 10.

231   ibid.

232   ibid., p. 12.

Government on the progress of reforms that emanated from the Gershon Report. The SIGB ceased operating in 2014 as part of a round of budget consolidation measures. Consideration of government ICT matters at the CEO level was subsequently assumed by the Australian Public Service Board, which was given a remit to discuss such matters if and as required.[233] It is not yet clear whether a similar body to the SIGB will be re-constituted to work in collaboration with the recently established DTO.

4.21   In New Zealand, 10 agency chief executives participate in an ICT Strategic Leadership Group, which is chaired by the NZGCIO, Mr Colin MacDonald. This group is responsible for 'lead[ing] the vision of a radically transformed public service supported by a coherent ICT ecosystem.'[234] As part of its remit, this group is expected to act as 'champions' for whole-of-government strategic direction 'within their own agencies and more widely across the system.'[235]

4.22   The group meets at least quarterly and is supported by four similarly collaborative groups comprising agency CIOs, chief finance officers, chief operating officers, and senior subject matter experts. Collectively, these five groups form the New Zealand GCIO Partnership Framework, which operates with a total of 55 CEOs or high-level executives from across 21 agencies.[236]

4.23   The NZGCIO's team has listed several benefits that are derived from ensuring that agency heads are formally engaged in the whole-of-government ICT reform process through vehicles such as the Partnership Framework:

> *It's a great vehicle to break down the barriers and improve the transfer of information that might be shared [between agencies]. It means that we have a group that is governing the work program that sits underneath the ICT Strategy and is taking personal responsibility of driving the Strategy's outcomes in their own departments.*[237]

4.24   The NZGCIO team have also found that this process helps spread belief in the reform process across the sector while mitigating the risk of having some agency heads initially commit to reform, but then not follow through with the required

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233   Harley Dennet, 'Budget axe: the small government agencies abolished by Abbott', *The Mandarin*, 15 December 2014.

234   Document presented to Committee at the briefing with the Department of Internal Affairs (NZ), 10 March 2016.

235   Department of Internal Affairs (NZ), 'ICT Strategic Leadership Group: Terms of Reference', April 2015, p. 2.

236   Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

237   ibid.

actions.[238] Furthermore, it provides a means by which agency heads can better comprehend how ICT might be used to improve business outcomes.

Finding 18

Other jurisdictions—including Queensland, NSW, and New Zealand—have established governance bodies that give agency heads a high degree of ownership over the direction and implementation of ICT reform across government.

These structures are seen as a way to improve collaboration between agencies in the delivery of ICT solutions while providing an avenue through which agency heads can better comprehend how ICT might be used to improve business outcomes.

Current status in WA

4.25   The WAGCIO has recognised the need to up-skill agency heads and integrate them into the ICT reform program, having acted quickly to establish both the Directors General ICT Council and a supporting CIO Advisory Committee (see 3.42 above). Both bodies have met four times since September 2015 and have published agendas and communiques outlining their list of activities and priorities.[239]

4.26   At the Council's request, a Business Impact Group (BIG) has also been established. In addition to the technical support already provided by the CIO Advisory Committee, the BIG offers advice regarding the 'business merits of whole-of-government ICT reform initiatives' being contemplated by the Council.[240] As with the other two bodies, the BIG is chaired by Mr Nunis and its members include senior executives from nine of the Council's ten member agencies.[241] The group has met twice since April 2016.

4.27   The WAGCIO has confirmed that the Council and its supporting bodies have been established to 'increase transparency and create a culture of shared experience' around ICT.[242] Mr Nunis has added that he was looking to establish a body that would generate 'buy-in from the top tier of government' around key decision making.[243] The Council also provides an opportunity for chief executives

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238   Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

239   Available via: Office of the Government Chief Information Officer (WA), 'Governance', 2016.

240   Office of the Government Chief Information Officer (WA), 'Business Impact Group', 2016.

241   The Department of Treasury is the only member agency from the Directors General ICT Council that is not currently represented in the Business Impact Group. See, Office of the Government Chief Information Officer (WA), 'Business Impact Group Membership', 12 April 2016.

242   Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 7.

243   Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, p. 8.

to obtain 'a greater level of insight … about technology.'[244] In addition, it promotes a collaborative approach to the delivery of major ICT initiatives across a sector that has been prone to operating in an insular manner.[245]

4.28   Outside of this structure, the WAGCIO is looking at other ways to improve the technological awareness of senior executives. Prominent among these initiatives, as outlined in *Digital* WA, is the plan to implement an ICT Leadership Program. One of the objectives of this program is to help agency executives and senior managers acquire 'an appropriate understanding of the potential and limitations of current technology.'[246] It is hoped that the ICT Leadership Program will have commenced by the second half of 2017.

Finding 19

The WAGCIO has recognised the need to up-skill agency heads and integrate them into the whole-of-government ICT reform process, having acted quickly to establish both a Directors General ICT Council and a supporting CIO Advisory Committee. Both groups are chaired by the WAGCIO's Chief Executive Officer and have met four times since September 2015.

Finding 20

The WAGCIO has advised that the Directors General ICT Council and the CIO Advisory Committee have been established to create a culture of shared experiences and collaborative implementation in ICT delivery.

This is an important development, given WA public sector agencies have been prone to operating in an isolated manner when managing their ICT requirements.

Finding 21

The WAGCIO has also committed to establishing an ICT Leadership Program to help agency executives and senior managers develop an appropriate understanding of the potential and limitations of current technologies.

Committee's View

4.29   The Committee supports the actions the WAGCIO has taken to establish the leadership bodies headed by the Directors General ICT Council. Increasing the level of engagement and expertise among this cohort is pivotal to delivering better outcomes in government ICT investment. The Council members will also

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244 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, p. 8.

245 ibid., pp. 2,8.

246 Office of the Government Chief Information Officer (WA), <u>*Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*</u>, 26 May 2016, p. 32.

be key leaders in driving what *Digital* WA refers to as the 'cultural shift towards innovation, collaboration, and transformation' necessary to drive the program of change outlined in the Strategy.[247]

4.30 *Digital* WA makes the valid point that 'the challenge for the public sector is to transform ICT from a business cost to a business enabler.'[248] In this respect, it is also important that the Directors General ICT Council be used to help a greater number of agency heads develop a more strategic mindset regarding how ICT can be used to improve the efficiency and the quality of the services their business offers. The urgency of this task is underlined by the general observation from the AIIA that '[a]ll too often senior executives are not visible in their support or understanding of technology solutions and outcome alignment in the bigger business strategy.'[249]

4.31 The value to be gained from having business leaders understand how to align ICT solutions to business operations has been confirmed by Landgate, one of WA's best performing agencies in terms of ICT investment and digital service offerings. When speaking about the transformation of Landgate's approach to service delivery, Mr John Wreford, General Manager, Finance, Information and Legal Services said:

> *I cannot overemphasise the importance of having at a senior level within business, including the board, a strategic view of what our business should be.*[250]

4.32 It is encouraging to note that Landgate's CEO, Mr Mike Bradford, is one of the ten agency heads on the Directors General ICT Council. Mr Bradford is joined on the Council by the heads of the Department of Education, the Housing Authority, and WA Police. Collectively, this group represents four of the five agencies that the AIIA has praised for their approach for ICT, in particular for their tendency to 'have a broader vision and strong alignment to overarching business and/or strategic outcomes.'[251] With this group forming half of the Council's membership, the Committee would like to see the Council take a proactive approach improving investment outcomes across the sector by formalising a

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247 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 6.

248 ibid., p. 23.

249 Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, p. 20.

250 Mr John Wreford, General Manager, Finance, Information and Legal Services, Landgate, *Transcript of Evidence*, 16 March 2016, p. 10.

251 Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, Appendix One, p. 10.

process that ensures all agencies think more strategically in their approach to ICT.

Finding 22

The Committee supports the actions the WAGCIO has taken to establish the Directors General ICT Council and the CIO Advisory Committee. Increasing the level of engagement and expertise among this cohort of the public sector is pivotal to delivering better outcomes in government ICT investment.

Finding 23

The Directors General ICT Council has ten members including the heads of the Department of Education, the Housing Authority, Landgate, and the Western Australian Police. These agencies are among a small number that the AIIA has recognised for managing the ICT requirements well and taking a strategic approach to aligning ICT investments with intended business outcomes.

Recommendation 6

The WAGCIO ensure that the Directors General ICT Council takes a proactive approach to improving investment outcomes across the sector by formalising a process that ensures all agencies think more strategically in their approach to ICT.

This process could require all agencies to demonstrate to the Council that their strategic planning documents consider the means by which ICT solutions might be used to achieve or enhance intended business outcomes.

Chapter 5

Improving Outcomes: The Need for Robust Governance Processes

Importance of governance

5.1 Both the Department of Finance (Finance) and the Government of Western Australia Office of the Government Chief Information Officer (WAGCIO) have emphasised the importance of good governance for successful outcomes in ICT delivery.[252] A robust governance structure helps ensure proper procurement practices are followed and that the business owner retains control over the scope of their investment (see 2.41 through 2.44 above).

5.2 The Committee's attention has therefore been drawn to the ways in which governments both here, and in other jurisdictions, have sought to establish more effective governance processes around their ICT investments. For the purposes of this report, the Committee has narrowed its focus to three areas. The first two relate to the process around the ownership and oversight of ICT expenditure decisions within agencies, while the third looks at a couple of ways in which agency ICT expenditure can be monitored at a whole-of-government level.

Making sure agencies take ownership of ICT projects and programs

5.3 The principles of good governance require that the lines of responsibility and accountability for any project or program of expenditure are clearly defined within a business. Ideally, an oversight group should take charge of all key decisions, direct project teams, and ensure that the status of any expenditure initiative is actively monitored.[253]

5.4 The Committee has consistently heard that business heads should be at the apex of such governance structures, particularly in areas as complex and potentially

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252 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 2; Submission No. 3 from Department of Finance (WA), 25 August 2015, p. 6.

253 Submission No. 3 from Department of Finance (WA), 25 August 2015, p. 6.

expensive as ICT investment.[254] The prevailing sentiment, as articulated by ISACA, is that 'ICT should not govern itself, but rather it must be oversighted, monitored and guided by the business and delivery it serves.'[255] ISACA added that the success of any business is dependent upon the ability of those in the most senior positions to govern ICT, and 'by govern we mean evaluate, direct and monitor.'[256]

5.5   Value Management Consulting expressed a similar opinion, stating that ICT is 'an enabler of business change and needs to be owned by business executives.'[257]

5.6   The WAGCIO also advocates the importance of senior non-ICT stakeholders taking ownership of projects and programs from 'inception through to completion'.[258] This enables a 'common understanding of scope and an ongoing alignment between business expectations and technology deliverables.'[259]

5.7   Ultimately, if governance structures within the business are sound, it is less likely that ICT units within a business, or contractors, will exercise undue influence over investment outcomes. As a result, many of the problems traditionally experienced with ICT delivery (see 2.43 above) are likely to be averted. Other jurisdictions have acknowledged weak governance as an issue that needed to be addressed and have introduced various initiatives to facilitate a higher level of ownership from business leaders.

Finding 24

Evidence taken throughout the Inquiry supports the view that successful outcomes in ICT delivery are dependent upon good governance processes. The principles of good governance require senior leaders to take ownership of ICT investments to ensure that projects or programs are successfully delivered.

5.8   In Queensland, the QGCIO oversees an ICT Investment Management Review process as a means of improving the governance structures within individual agencies. This process is premised on the view that Directors-General are

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254 Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, p. 20; Submission No. 6 from Value Management Consulting Pty Ltd, 9 September 2015, p. 4.

255 Submission No. 13 from ISACA, 11 September 2015, p. 2.

256 ibid., p. 1.

257 Submission No. 6 from Value Management Consulting Pty Ltd, 9 September 2015, p. 5.

258 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 2.

259 ibid., p. 2.

ultimately 'accountable for business delivery activities within their agencies', with agency CIOs responsible for ICT-enabled business changes.[260]

5.9 The Investment Management Review process involves independent audits of ICT initiatives at set times within the life-cycle of a project or program. Agencies are initially required to perform an assessment of a particular investment initiative against a set of pre-defined criteria. This is evaluated by the Investment Management Review team, which can produce recommendations for additional governance measures based upon 'identified levels of business criticality and risk.'[261]

5.10 A similar process is evident in New Zealand, where the NZGCIO is responsible for providing Ministers with 'system-wide assurance that ICT risks are being identified and well managed by agencies and across government as a whole.'[262]

5.11 As part of this mandate, the NZGCIO has established an ICT System Assurance team to help build agency capability and to provide government and the public with confidence that 'ICT-enabled projects and programmes … are effectively managed to deliver expected outcomes.'[263]

5.12 The ICT System Assurance team has recently published an *All-of-Government ICT Operations Assurance Framework* (The Framework), which will be used to ascertain the level of sector-wide ICT risks and to improve the quality of ICT risk management within individual agencies. The Framework is based on a series of 'design principles', one of which reminds agency CEOs that they are accountable 'for the successful delivery of ICT operations and for ensuring that risks are managed and kept at an acceptable level.'[264]

5.13 The Framework includes a detailed 'ICT Operations approach' that agencies are expected to undertake on a 'cyclical basis'.[265] As part of this approach, agencies are expected to conduct an assessment of the level of maturity of their ICT risk management and assurance processes. This assessment is undertaken using templates provided by the NZGCIO's ICT System Assurance team. The team then uses the assessment to compile a sector-wide report to the Government on the key areas of risks and the overall level of systems maturity. It also uses the information it obtains to report directly to Ministers on the status of their

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260 Queensland Government Chief Information Office, 'ICT Investment Review', no date.

261 ibid.

262 Department of Internal Affairs (NZ), 'ICT System Assurance', no date.

263 Department of Internal Affairs (NZ), 'Governance and Leadership: ICT System Assurance', 20 April 2015.

264 Department of Internal Affairs (NZ), *All-of-Government ICT Operations Assurance Framework: Information Pack*, February 2014, p. 6.

265 ibid., p. 8.

respective agencies and to develop training and awareness activities to lift the capabilities of agencies where shortcomings are identified.[266]

5.14   The Committee met with the head of the NZGCIO's ICT System Assurance Team, Ms Alison Schulze. Ms Schulze confirmed her team was currently working on the development of a system that will allow quick comparison of the respective maturity levels across agencies. Even though there is currently a 'mixed' level of maturity across government agencies, Ms Schulze advised that her team's role was geared towards guidance rather than monitoring and compliance.[267] Ideally, her team looks to help agencies set-up robust systems to ensure effective oversight of ICT projects and operations. Interestingly, Ms Schulze acknowledged that some agencies had been slow to engage in the process outlined in the Framework. However, her team 'gained traction when agency chiefs were reminded that they were accountable to Ministers.'[268]

Finding 25

Other jurisdictions, including Queensland and New Zealand, have acknowledged weak governance around ICT investments as an issue that needed to be addressed and have introduced initiatives to facilitate a higher level of ownership from agency heads.

Current status in WA

5.15   The standard of governance structures within the WA public sector appears to vary from agency to agency (see 2.48 above). The Committee met with at least two agencies—the Department of Mines and Petroleum (DMP) and Department of Transport—which appear to have robust processes in place. A feature of both agencies is the extent to which oversight is exercised at the highest levels of the business.

5.16   At DMP, the Director General chairs a Finance Committee, which has representation on the Department's ICT Committee. The ICT Committee assesses and prioritises expenditure proposals presented by various units within the Department and looks at where synergies with existing systems might be utilised. Once projects or programs are approved, the ICT Committee monitors monthly expenditure and looks for signs of scope creep or delay. DMP confirmed that its executive has intervened previously to cut projects early, following which reviews were undertaken to determine what lessons could be drawn. Notably, any variations to an agreed budget or contract in excess of $50,000 must be

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266 Department of Internal Affairs (NZ), *All-of-Government ICT Operations Assurance Framework: Information Pack*, February 2014, p. 15.

267 Ms Alison Schulze, Director, ICT Assurance, Department of Internal Affairs (NZ), Briefing, 11 March 2016.

268 ibid.

reported to the ICT Steering Committee and approved by the Director General.[269]

5.17   At DoT, a Corporate Executive Committee meets monthly with the Director General. The then-Director General, Mr Reece Waldock, confirmed that at these meetings, the Department's Head of Business Information Services, 'has always been held to account on every IT project.'[270]

5.18   Despite evidence of best practice at some agencies, others, like WA Health, have by their own admission, 'witnessed a number of common problems in the delivery of ICT goods and services.'[271] WA Health overhauled its governance structures in April 2014 following an internal review. One of the 'core' issues WA Health identified in that review was 'the lack of an agreed, agency-wide governance structure and methodology for prioritising ICT investment decisions.'[272]

5.19   Under the new governance structure, the Director General now chairs an ICT Board, which is required to receive and authorise any business cases with a lifetime value exceeding $250,000. Even projects below this threshold will be referred if they are deemed to be complex, high-risk, or likely to impact 'a large number' of sites.[273]

Finding 26

The standard of governance structures applicable to ICT investment appears to be variable across Western Australia's public sector agencies.

5.20   The variable quality of governance structures across the sector appears to have been recognised by the Government, with the WAGCIO having assumed a degree of responsibility for raising standards in this area. As noted previously (see 3.27 and 3.28 above) the WAGCIO has been called on to 'minimise risk in the delivery of ICT across the public sector'.[274]

5.21   Within this remit, the WAGCIO will be expected to advise 'on governance and implementation of ICT projects' and implement frameworks 'which improve

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269 Dr Timothy Griffin, A/Director General and Mr Mietek Banaszczyk, Executive Director, Corporate Support, Department of Mines and Petroleum, *Transcript of Evidence*, 6 April 2016, pp. 4,11.

270 Mr Reece Waldock, Director General, Department of Transport, *Transcript of Evidence*, 23 March 2016.

271 Submission No. 16 from the WA Department of Health (WA Health), 15 September 2015, p. 1.

272 ibid.

273 Dr David Russell-Weisz, Director General, WA Health, Letter, 12 May 2016.

274 Department of Treasury (WA), *2016-17 State Budget: Budget Statements*, Budget Paper No. 2 (Vol. 1), 12 May 2016, p. 440.

public sector capability and capacity'.[275] With the WAGCIO still in its infancy, there remains a lack of detail around the exact role the office will play in discharging these particular duties.

5.22   In *Digital* WA, the WAGCIO has reiterated the importance of each agency establishing an effective governance structure that:

> *… ensures alignment with business priorities, includes suitably senior business and ICT representatives, and has well defined roles, responsibilities and escalation points.*[276]

5.23   The Strategy goes on to acknowledge that agencies will be at various levels of maturity, but indicates that these levels will be enhanced to an extent by implementing the various initiatives within the Strategy. It is explained that these initiatives have been built around a five-level Capability Maturity Model that reflects best practice models developed by recognised independent expert bodies. These include the COBIT framework for governance and management of ICT, and the P3M3 Portfolio, Programme, and Project Management Maturity Model.[277]

5.24   The Strategy indicates that agencies will undertake an assessment against a wide range of 'core capabilities'[278] to determine their respective maturity levels and to identify the parts of their business structures that require attention. It is noted that while some of these core capabilities refer to principles of good governance[279], none refer directly to ensuring that agency heads assume ultimate authority and accountability for ICT expenditure.

5.25   The assessment of core capabilities is expected to guide agencies towards which of the *Digital* WA initiatives (see 3.47 above) they will need to implement to increase the level of maturity within their business. Once this is determined, agencies will be expected to 'plan, manage, and run their own ICT reform program in parallel with the Strategy.'[280]

5.26   At least two of *Digital* WA's 35 Roadmap initiatives should assist in building skills around ICT governance within the upper echelons of the public sector. In

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275 Department of Treasury (WA), *2016-17 State Budget: Budget Statements*, Budget Paper No. 2 (Vol. 1), 12 May 2016, p. 440.

276 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 41. See also, p. 24.

277 ibid., p. 25.

278 *Digital* WA directs readers to a list of 18 core capabilities in Appendix Two of the document. See ibid., pp. 39-40.

279 See, for example, 'Business-ICT Integration' and 'Agile Sourcing' at ibid.

280 ibid., p. 25. Note: COBIT stands for Control Objectives for Information and Related Technology.

addition to the ICT Leadership Program (referred to at 4.28 above), there are plans to establish a Public Sector ICT Governance Framework 'to assist agencies in governing, planning and monitoring ICT projects and service delivery strategically, effectively and safely.'[281] Both initiatives have been assigned implementation dates of mid-2017.

5.27   Two of the seven sector-wide KPIs listed in *Digital* WA (see Table 1 above) will contribute towards determining the extent to which governance structures are improving across the sector. The first, KPI No. 5, aims to ensure that by 2020, more than 90 per cent of agency chief executives are confident in the quality of their ICT governance to inform good decisions. The second, KPI No. 7, is looking for more than 90 per cent of agencies to acquire a maturity level of 3 or higher in all 'strategic core capabilities' over the same timeframe.[282]

Committee's View

5.28   The Committee shares the WAGCIO's view that '[s]trong and effective governance is critical to the success of ICT project management and service delivery.'[283] What is apparent from the actions of other jurisdictions such as Queensland and New Zealand is that strong governance requires the most senior figures within an agency to be actively engaged in overseeing ICT investments.

5.29   Given the AIIA's observation that a 'significant proportion of the DG level population' in WA has demonstrated a lack of interest or understanding about the nuances of ICT investment (see 2.32 above), it is clear that action is needed in this area.

5.30   The Committee notes that *Digital* WA has outlined a variety of initiatives that are aimed at lifting overall governance standards around ICT investment across the WA public sector. While the Committee welcomes these initiatives, it believes there is scope for more direct involvement from the WAGCIO, and quite possibly Finance, to ensure that these standards improve.

5.31   With maturity levels around ICT governance so variable in WA, the Committee has particular reservations regarding what appears to be an over-reliance on agencies to undertake their own capability assessments and develop their own reform programs.

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281 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 38.

282 ibid., p. 22.

283 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 2.

5.32   In this respect, the Committee sees merit in the approaches taken in New Zealand and in Queensland. In both jurisdictions, the CEO's governance responsibilities are made clear and the GCIO teams are actively involved in both evaluating any agency self-assessment and providing guidance on remedial measures that should be taken to improve governance processes (see 5.8 through 5.13 above). The Committee also sees value in the practice in New Zealand whereby the NZGCIO uses these assessment results to inform Ministers as to the quality of governance within their respective agencies.

5.33   At the moment, it is not clear that the reform program outlined in *Digital* WA will involve similar processes. Notably, the WAGCIO has committed to conducting an annual benchmarking survey of agencies to 'gauge sector-wide progress' on matters relating to ICT delivery.[284] However, the WA Government Chief Information Officer, Mr Giles Nunis, has recently confirmed that this plan has yet to proceed. This is somewhat understandable given the extent of the work the WAGCIO has already undertaken with a comparatively small team of staff.

5.34   Notwithstanding this point, the Committee thinks it is important to gain an overview of the quality of governance structures within agencies as soon as possible. In this respect, it urges the WAGCIO to work with staff from Finance's Government Procurement Unit to conduct the proposed agency benchmarking survey. This survey should include an audit of governance processes to determine the extent to which senior leadership in each agency is directly involved in the oversight of ICT investment. The results of such an audit should be used to help Directors General or CEOs devise tailored programs to improve their internal processes, and to inform Ministers of the current standard of governance around ICT investment within their respective agencies.

Finding 27

The Committee notes that *Digital* WA has outlined a variety of initiatives that are aimed at lifting overall governance standards around ICT investment across the Western Australian public sector. While the Committee commends these initiatives, it believes there is scope for more direct involvement from the WAGCIO, and possibly the Department of Finance, to help agencies improve in this area.

Finding 28

The WAGCIO has not yet been in a position to proceed with its planned annual benchmarking survey of agencies to 'gauge sector-wide progress' on matters relating to ICT delivery.

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284 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 8.

> **Recommendation 7**
>
> The WAGCIO and the Department of Finance conduct their proposed first annual agency benchmarking survey as a matter of urgency. This survey should include an audit of governance processes to determine the extent to which senior leadership in each agency is directly involved in the oversight of ICT investment.

> **Recommendation 8**
>
> The WAGCIO and the Department of Finance use the results of the first benchmarking survey to help Directors General or CEOs devise tailored programs to improve internal processes where required, and to inform Ministers of the current standard of governance around ICT investment within their respective agencies.

Tools for agency oversight of ICT expenditure – Gateway reviews

5.35   Numerous contributors to the Inquiry have made reference to the value of Gateway reviews as an oversight tool from which agencies can improve their delivery of ICT (and non-ICT) projects and programs.

5.36   Under a Gateway review process, agencies engage an independent panel of specialists to conduct 'short, intensive reviews' at any of six critical decision-points, or gates, of a particular project or program.[285] These gates are outlined in Figure 1 below (next page).

5.37   Gateways are a form of peer-review that provide an objective opinion on the true status of a project or program. From this, responsible officers, agency heads, and even Cabinet can obtain assurance around whether or not it is prudent to proceed to the next stage of a particular procurement process.[286]

5.38   Finance refers to Gateway reviews as 'a proven, cost-effective assurance process for major projects.'[287] In terms of cost, Finance has advised that it charges an average of $20,000 to conduct a Gateway review if called on by an agency.[288] However, it is likely that costs may vary between jurisdictions depending on the

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285 Department of Finance (WA), 'Gateway', no date. See also, Mr Paul Wilkins, General Manager, Innovation and Strategy, Ajilon Australia Pty Ltd, *Transcript of Evidence*, 11 May 2016, p. 8.

286 Submission No. 2 from Mr E. John Blunt, 14 August 2015, p. 5; Office of Government Commerce (UK), 'OGC Gateway™ Process Review 2: Delivery strategy', 2007, London, UK, p. 1.

287 Department of Finance (WA), 'Gateway', no date.

288 Mrs Stephanie Black, Executive Director, Government Procurement, Department of Finance, *Transcript of Evidence*, 23 March 2016, p. 5.

complexity of the task and the number of gates at which reviews are undertaken.[289]

Figure 1 - The six decision points (or gates) at which a Gateway review can be undertaken[290]

1	**Strategic Assessment**	Assesses a project's potential to succeed
2	**Business Case**	Confirms that the project is achievable and likely to deliver the intended outcome
3	**Readiness for Market**	Investigates the assumptions made in the business case and the proposed approach for project delivery, including the procurement strategy
4	**Tender Decision**	Ensures that the tender evaluation has been performed transparently and according to the required procedures
5	**Readiness for Service**	Investigates the agency's readiness to make the transition from the solution to implementation
6	**Benefits Evaluation**	Examines what arrangements have been set up to manage the service and benefits derived from the project over its operating phase, including any associated contract management

5.39   Notwithstanding the financial outlays involved, Gateway reviews appear to offer numerous benefits. Ajilon has argued that polices that promote Gateway reviews can 'lead agencies to better procurement and delivery outcomes.'[291] This view is supported by NSW Treasury, which suggests that Gateway reviews lead to 'more accurate project scoping and estimates' as well as 'reduced time and cost overruns.'[292] The New Zealand Treasury says Gateway reviews can provide a 'circuit breaker for projects that have got stuck on a particular issue, that have inadequate organisational support, or are dysfunctional in some way.'[293] Others have also pointed to the educative benefits of Gateway reviews,

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289   For example the New Zealand Treasury advises agencies to 'allow for a fixed cost of $75,000 per review. See The Treasury (NZ), 'Gateway Factsheet', no date.

290   The text in this table has been reproduced verbatim from: Department of Finance (WA), 'The Gateway review process', no date. Note that the title of each gate and the explanatory text relating to it can vary slightly between jurisdictions.

291   Submission No. 4 from Ajilon Australia Pty Ltd, 10 September 2016, p. 2. See also Sir Peter Gershon, *Review of the Australian Government's Use of Information and Communication Technology*, August 2008, p. 15.

292   The Treasury (NSW), 'Gateway Review System', Treasury Circular NSW TC 10/13, 2 November 2010.

293   The Treasury (NZ), 'Gateway Factsheet', no date.

in particular their ability to improve the procurement and project management skills of agency staff.[294]

5.40   The only concerns regarding Gateway reviews that were expressed to the Committee related to their potentially protracted nature and the impact this can have on the agency being assessed. While expressing his support for the concept of Gateway reviews, Mr Nunis nonetheless made the following point:

> *My concern with some of the gateway reviews is that it actually takes a lengthy period of time [one to two weeks] and for large projects it actually detracts the resources away from actually undertaking those types of projects, because they could be quite high pressured, and yet we will spend two or three weeks responding to the types of questions that a gateway review undertakes.*[295]

5.41   The head of the QGCIO, Mr Andrew Mills, made a similar point when he said that Gateways would present an unsustainable workload if they had to be implemented at all six gates for every ICT investment.[296] In what appears to be an acknowledgement of this point, the Queensland Government has adopted a 'modified Gateway' process.[297]

5.42   Under this process all ICT initiatives are to be assured at each gate. Agencies determine the level of complexity and impact of the project and give it an assurance level rating from 1 to 4. The assurance level indicates the degree of independence review required. Agencies conduct an internal review for levels 1-2 and must have an independent external assurance assessment done for levels 3 and 4. Agencies only need to have a central review done by the QGCIO for initiatives with an assurance level of 2 to 4 at Gates 0 (for programs) or 1 and 3 (for projects).[298] These assessments are then considered by the Directors-General ICT Council (see 4.19 above) where the risk grading is either verified or re-classified.[299]

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294 Submission No. 2 from Mr E. John Blunt, 14 August 2015, no page; The Treasury (NSW), 'Gateway Review System', Treasury Circular NSW TC 10/13, 2 November 2010; Submission No. 12 from WA Government Chief Information Office, 11 September 2015, p. 4.

295 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 11.

296 Mr Andrew Mills, Queensland Government Chief Information Officer, Briefing, 7 March 2016.

297 The Committee was introduced to the term 'modified Gateway' by Mr Andrew Mills, Queensland Government Chief Information Officer, Briefing, 7 March 2016.

298 Mr Andrew Mills, Queensland Government Chief Information Officer, Email, 7 September 2016. Please note that while the Gateway reviews gates are numbered 1 through 6 in WA, they numbered 0 through 5 in Queensland.

299 ibid.

5.43   New South Wales also uses a modified Gateway model with reviews required at the first gate if a proposed investment exceeds $10 million and is expected to commence within 2-4 years. A review at the Business Case stage is also required if the estimated cost exceeds $10 million, although Treasury may order a review at this gate for any proposal valued over $1 million.[300]

5.44   In New Zealand, Cabinet has mandated the full Gateway review process, but only for 'high-risk capital projects and programs.'[301] The high-risk rating is determined using a Risk Profile Assessment (RPA) conducted by the agency and based on a standardised set of questions compiled by The New Zealand Treasury and the NZGCIO. If the RPA rates anywhere between medium and high-risk it has to be submitted to The Treasury for verification. Ultimately, it is The Treasury that confirms whether a high-risk rating applies and whether the Gateway reviews will be required. Agencies are advised to allow up to two months for each review.[302]

Finding 29

Under a Gateway review process, agencies engage an independent panel of specialists to conduct short, intensive reviews at six critical decision-points, or gates, of a particular project or program.

The Department of Finance has described Gateway reviews as a 'proven, cost-effective assurance process' for major ICT and non-ICT projects.

Finding 30

Other jurisdictions observed by the Committee have adopted a 'modified Gateway' process, under which the requirements for conducting reviews are determined by the estimated cost and risk associated with a particular ICT project or program.

Current status in WA

5.45   Gateway reviews were introduced to the WA public sector in 2008. Currently, their use is not mandated. Instead, they are 'recommended' for ICT projects or programs 'with an investment value greater than $10 million.'[303] For non-ICT expenditure proposals, the threshold is $100 million. Finance operates a

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300 The Treasury (NSW), 'Gateway Review System', Treasury Circular NSW TC 10/13, 2 November 2010.

301 The Treasury (NZ), 'Gateway Factsheet', no date.

302 See, The Treasury (NZ), 'Gateway Factsheet', no date; The Treasury (NZ), 'Risk Profile Assessment', 27 August 2015; The Treasury (NZ), *Gateway Process Guide*, March 2015.

303 Department of Finance (WA), 'Gateway', no date. See also Ms Anne Nolan, Director General, Department of Finance, *Transcript of Evidence*, 23 March 2016, p. 5 and Mrs Stephanie Black, Executive Director, Government Procurement, Department of Finance, *Transcript of Evidence*, 23 March 2016, p. 6.

Gateway Unit that can manage the review process and help agencies improve their performance around procurement.[304]

5.46 Finance has confirmed that 150 Gateway reviews have been undertaken since 2008, mostly for non-ICT projects. The Department added that the Gateway process 'is under-utilised' for ICT expenditure in WA, when compared with other Australian jurisdictions.[305] In response to a question from the Committee, Finance said the under-utilisation of Gateway was attributable to the fact that agencies 'do not give enough attention to project assurance as part of their project planning or project management.'[306] Finance advised that it has 'undertaken considerable promotion of Gateway' through a range of publications, training courses, and other activities.[307] However, it is now amending its various procurement tools and relevant publications to advise that agencies give 'requisite consideration [to] Gateway during procurement processes.'[308]

5.47 The under-utilisation of Gateway reviews for ICT investments in WA has been confirmed through statistical and anecdotal evidence obtained by the Committee. Finance provided a table showing a total of 17 'ICT Procurement Projects' valued at over $10 million for the two years to March 2016 (See Appendix Three).[309] Of these 17 projects, five had been subject to the Gateway process for a total of seven separate reviews. None of these reviews were conducted at the first two gates (Strategic Assessment and Business Case), while two were conducted at the third gate (Readiness for Market).[310]

5.48 Given the high-profile problems that WA Health has experienced with its ICT procurement practices, the Committee was interested in finding out the extent to which that department had utilised the Gateway process for projects over $10 million. The subsequent response demonstrated a similar pattern to the sector-wide data provided by Finance.

5.49 WA Health confirmed that between 2007 and 2015, it conducted 10 reviews across six projects. None of these reviews were conducted at the first gate, while two each were conducted at the Business Case and Readiness for Market gates.[311] Notably, WA Health confirmed that Gateway reviews were not undertaken for the two projects that were the subject of recent critical

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304 Department of Finance (WA), 'Who is involved in a Gateway review?', no date.
305 Submission No. 3 from Department of Finance, 25 August 2015, p.4.
306 Mrs Stephanie Black, A/Director General, Department of Finance, Letter, 6 April 2016.
307 ibid.
308 ibid.
309 ibid.
310 ibid.
311 Dr David Russell-Weisz, Director General, WA Health, Letter, 12 May 2016.

commentary by the Auditor General (see 2.47 above).[312] The Department told the Committee it had found the Gateway process 'very useful in some of our large infrastructure projects' and added that 'we should be using it in all the areas it should be used for.'[313]

5.50   In light of this evidence, the Committee has considered what factors might be conspiring against the greater use of Gateway reviews in WA. Some of the better performing agencies, such as Landgate and DMP, told the Committee that while they have used Gateways periodically, they generally rely on proven governance structures and process they already have in place.[314]

5.51   Other explanations were offered by Mr Paul Wilkins from Ajilon, who has previously acted as a Gateway reviewer and has been the subject of reviews. For Mr Wilkins, the fact that Gateway reviews are not mandated is a key factor inhibiting their greater use. Mr Wilkins also felt there was 'a lack of proactive guidance' around the application of Gateway, a point that appears to have been implicitly acknowledged by Finance given the impending amendments to its guidance materials (see 5.46 above).[315]

5.52   Looking at it from the perspective of the agencies, Mr Wilkins said that their priority when faced with any expenditure initiative was 'to concentrate on securing the funding.[316] As a result, the processes recommended at the earlier gates, such as the strategic assessment and the business case are put to the side. According to Mr Wilkins, the prevailing mindset in these circumstances is:

> If I just get the money, I can [then] do the business case and I can do the strategic assessment.[317]

5.53   Mr Wilkins added that agencies taking this approach may obtain funding before they have properly explored the best options for their particular proposal. Mr Wilkins' claims in this respect appear to have some validity, given the lack of Gateway reviews undertaken in WA, especially at those earlier gates.

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312 Dr David Russell-Weisz, Director General, WA Health, Letter, 12 May 2016. The two projects were the Identity Access Management (IAM) system (2014) and the Centralised Computing Services Contract (2016).

313 Dr David Russell-Weisz, Director General, WA Health, *Transcript of Evidence*, 6 April 2016, p. 8.

314 Ms Gee Lightfoot, General Manager, Information Services, Department of Mines and Petroleum, *Transcript of Evidence*, 6 April 2016, p. 10 and Mr Michael Bradford, Chief Executive, Landgate, *Transcript of Evidence*, 16 March 2016, p. 11.

315 Submission No. 4 from Ajilon Australia Pty Ltd, 10 September 2015, pp. 2,8.

316 ibid., p. 8.

317 Mr Paul Wilkins, General Manager, Innovation Strategy, Ajilon Australia Pty Ltd, *Transcript of Evidence*, 11 May 2016, pp. 5-6.

Finding 31

Gateway reviews were introduced by the Western Australian Government in 2008. Currently, there is no form of mandate for their use. Instead, reviews are 'recommended' for ICT projects or programs with an investment value greater than $10 million.

Finding 32

The Department of Finance has advised that the Gateway process 'is under-utilised' for ICT projects and programs in Western Australia, when compared with other Australian jurisdictions.

Finding 33

The Department of Finance has suggested that the under-utilisation of Gateway reviews for ICT investments is attributable to the fact that agencies 'do not give enough attention to project assurance as part of their project planning or project management.'

Committee's View

5.54 According to the WAGCIO, the lack of an 'ongoing review' process is one of the common problems witnessed in the delivery of ICT goods and services across jurisdictions.[318] A similar sentiment was expressed by Mr E. John Blunt, who is an experienced Gateway reviewer of high-risk government ICT projects internationally and within Australia. The Committee agrees with Mr Blunt's suggestion that a 'more strict enforcement' of the Gateway review process in WA 'may improve ICT project delivery and contract management' throughout the public sector.[319] This leads to the issue of whether the process should be mandated.

5.55 Finance confirmed that it has previously considered the idea of mandating Gateway reviews, but the current preference is to encourage agencies towards adopting the process. This is based on the Department's view that voluntary participation produces more meaningful results.[320] Finance also felt that mandating could result in problems around resourcing, in particular the potential difficulty around attracting reviewers from other jurisdictions if they end up being called on too frequently.[321]

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318 Submission No. 12 from WA Government Chief Information Office, 11 September 2015, p. 2.
319 Submission No. 2 from Mr E John Blunt, 14 August, p. 6.
320 Ms Anne Nolan, Director General, Department of Finance, *Transcript of Evidence*, 23 March 2016, p. 6.
321 ibid., p. 6.

5.56   The Committee does not necessarily share the view of Finance around potential resourcing issues, but acknowledges that mandating Gateways across all six gates could create an unnecessary burden for many agencies.

5.57   Interestingly, WA Health advised that it 'certainly would not have an issue' if Gateway reviews were mandated.[322] The Committee is encouraged by the fact that key agencies such as WA Health are open to the concept of a mandated policy. However, it recognises that others agencies, such as Landgate and DMP, might well have a case in arguing against such an impost in view of the efficacy their current governance arrangements.

5.58   Given the State's overall record in the delivery of ICT projects and programs, the Committee believes a compromise position is warranted. In this respect, it sees the introduction of a modified Gateway policy as a reasonable option for WA. Such a policy could establish as its default position a mandatory requirement for agencies to conduct a review at the first and third gates for all ICT projects and programs valued above $10 million.

5.59   A review at the first gate would help ensure that a proposal fits within the broader strategic direction of an agency and its existing ICT architecture. Notably, the Mr Nunis has endorsed the value of a Gateway review at this stage.[323]

5.60   A review at the third gate then provides an opportunity to confirm the assumptions of the business case and receive assurance that the proposed procurement option is the most suitable before any contracts are signed.

5.61   Being a default position, agencies could still have the opportunity to opt-out following presentation of some type of risk assessment to an independent authority for approval (e.g. the WAGCIO, the Directors General ICT Council, or the Department of Finance).

5.62   The Committee believes that such an approach would reduce the incidence of poor outcomes from ICT expenditure, while simultaneously raising the profile of the Gateway review as a valuable assurance tool for all public sector entities.

Finding 34

A stronger enforcement of the Gateway review process in Western Australia could lead to better outcomes from the delivery of ICT projects and programs across the public sector.

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322 Mrs Rebecca Brown, Deputy Director General, WA Health, *Transcript of Evidence*, 6 April 2016, pp. 8-9.

323 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 11.

Recommendation 9

The Department of Finance introduce a modified Gateway policy that, as its default position, requires agencies to undertake a review at the first (Strategic Assessment) and third (Readiness for Market) gates for any ICT investment proposal worth more than $10 million.

Scope should exist for exemptions from this process, subject to authorisation from an independent authority such as the WAGCIO, the Directors General ICT Council, or the Department of Finance.

Tools for whole-of-government oversight of ICT expenditure

5.63   While it is critical that agencies establish robust governance structures, there also appears to be value in establishing tools or processes—administered at a whole-of-government level—that promote transparency and accountability around ICT expenditure. Other jurisdictions have undertaken some interesting work in this area that is worth briefly examining.

ICT Dashboards

5.64   Publicly available ICT performance dashboards are gaining popularity as a key transparency and accountability tool for governments. Arguably the most sophisticated dashboard currently in operation is the United States' Federal Government's *ITDASHBOARD.GOV*. Established in 2009, the site provides key data on over 7,000 individual projects across 26 Federal agencies, with agency CIO's responsible for evaluating projects and uploading the relevant information.[324] *ITDASHBOARD.GOV* provides a comprehensive range of data on performance and expenditure at whole-of-government, agency-specific, and project-specific levels.

5.65   According to its website, the rationale for the establishment of the *ITDASHBOARD.GOV* is two-fold. The first reason relates to transparency, with the public and the Government both able to see the same data regarding the performance of Federal ICT investments against proposed budgets and timeframes. The second reason relates to ensuring accountability and effective oversight:

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324 Office of Management and Budget (US), 'Frequently asked questions', *ITDASHBOARD.GOV*, no date.

> *The transparency and analysis features of the IT Dashboard make it harder for underperforming projects to go unnoticed, and easier for the government to focus action on the projects where it's needed most.*[325]

5.66   In addition to the transparency and accountability benefits, significant financial benefits have been reported. *Intermedium* has quoted a former Obama administration CIO as saying that they were 'able to save three billion dollars in Federal Government IT spending' within six months of launching the dashboard.[326]

5.67   In Australia, Queensland was the first jurisdiction to launch an ICT dashboard in 2013 to 'provide transparent reporting on the status of all major project [sic] across the sector.'[327] An image of the front page of the *Queensland Government ICT Dashboard* has been included at Appendix One.

5.68   Visitors to this site are presented with a consolidated report showing the current status and expenditure for ICT projects for each agency and for the sector as a whole. Project status is colour-coded in green ('on-track'), amber ('closely monitored'), or red ('action required'). From this page users can easily drill-down to access information on specific projects. This information includes variances on estimated costs and completion dates and there is provision for further explanation regarding any factors that are contributing to cost blow-outs or delays.

5.69   The Queensland Government ICT Dashboard is administered by the QGCIO, although agencies are responsible for updating their data every eight weeks. The Queensland Government CIO, Mr Andrew Mills, told the Committee that he takes screen snap shots regularly and follows up with the Director General if an agency's update is overdue.[328] Mr Mills also confirmed that not all ICT projects are required to be uploaded, although those that rate at a Level 3 or 4 according to the agency's assurance assessment (referred to at 5.42 above) would generally be expected to be displayed.

5.70   As to the overall effectiveness of the dashboard, Mr Mills indicated that it was difficult to judge the impact on agency performance because the dashboard has been designed primarily as a transparency tool. However, this transparency has produced some key benefits. Mr Mills said that data that is posted on the

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325 Office of Management and Budget (US), 'Frequently asked questions', *ITDASHBOARD.GOV*, no date

326 Euan Brown, 'Long awaited ICT Dashboard announcement to follow Budget', 1 May 2015.

327 Department of Science, Information Technology, Innovation and the Arts (Qld), *Queensland Government ICT strategy 2013-17 action plan*, Queensland Government, August 2013, p. 65.

328 Mr Andrew Mills, Queensland Government Chief Information Officer, Briefing, 7 March 2016.

dashboard allows him to 'start conversations with agencies about the efficiency of their ICT spend.'[329] Moreover, Directors General have become 'appreciative of the information they can obtain …. [and] Ministers are seeing projects they would never have seen before.'[330]

5.71 Other Australian jurisdictions are now following the lead of Queensland. _The Victorian Government ICT dashboard_ has just gone live and will provide quarterly updates 'detailing the status of ICT projects with a budget over $1 million.'[331] This dashboard is presented in a format very similar to that used in Queensland. The Committee also notes the Australian Government DTO and NSW Department of Finance, Services and Innovation are currently trialling versions of their own dashboards.[332]

Finding 35

Public ICT project dashboards are gaining popularity as a key transparency and accountability tool for governments.

Queensland was the first Australian jurisdiction to launch an ICT dashboard in 2013.

Current status in WA

5.72 The WAGCIO has confirmed that a Government ICT Dashboard will be established in WA as one of the 35 reform initiatives outlined in _Digital_ WA. It is currently proposed that the Dashboard will be established by the end of 2018.[333]

5.73 Similar to the other jurisdictions that operate dashboards, transparency and accountability are two of the primary drivers of the initiative in WA. _Digital_ WA states that the dashboard will 'enable proper scrutiny and visibility of ICT spend within government.'[334] The WAGCIO has further indicated that it will use the Dashboard to assist with its oversight role and the initial focus will be on major projects.[335] As Mr Nunis explained to the Committee:

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329 Mr Andrew Mills, Queensland Government Chief Information Officer, Briefing, 7 March 2016.

330 ibid.

331 Department of Premier and Cabinet (VIC), _Information Technology Strategy Victorian Government 2016-2020_, 2016, p. 31.

332 Justin Hendry, 'DTO releases first performance dashboard, NSW and Vic to follow', _Intermedium_, 20 May 2016.

333 Office of the Government Chief Information Officer (WA), _Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020_, 26 May 2016, p. 34.

334 ibid.

335 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 8 and Office of the Government Chief Information Officer (WA), _Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020_, 26 May 2016, p. 34.

> *The last thing that a government of any colour would like would be surprises of the cost of projects exceeding what they expect it to be, so we want to have some ability to try to give that information well ahead of time, so we can do the right corrective measures in order to make those things work.*[336]

5.74   As at June 2016, work on the planned dashboard had not commenced. Mr Nunis told the Committee that work would progress once the sector-wide benchmarking exercise for *Digital* WA's KPIs was completed (see 3.48 above). This will enable the WAGCIO to obtain a clearer picture of all the major projects currently underway across all agencies. Mr Nunis indicated that his team would create the Dashboard and then leave it to the Government to determine how it will be used.

Committee's View

5.75   The Committee believes that transparency is an effective means of improving agency performance and accountability. Consequently, it supports the introduction of the Government ICT Dashboard for WA. With the initiative very much in its early stages, both the design of the dashboard and the criteria around what is published are yet to be determined.

5.76   While the Committee makes no recommendations regarding either aspect, it is impressed by the ease by which users can navigate the Queensland Government's ICT Dashboard. Rather than reinvent the wheel, the WAGCIO might look to establish a dashboard that is similarly navigable and informative.

5.77   The Committee is also of the view that the Government, the Parliament, and the public should have access to the status of as many ICT projects as is practical. In this respect, the Victorian approach of including all projects with a budget over $1 million is worthy of consideration.

Finding 36

The WAGCIO plans to establish an ICT Project Dashboard by the end of 2018. The Committee supports this initiative as a means of improving agency performance and accountability around the delivery of ICT projects.

GCIO oversight of agency ICT activities

5.78   In Queensland, the QGCIO's oversight functions extend beyond the administration of the ICT Dashboard. Mr Andrew Mills confirmed that his team

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336 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, p. 9.

does 'a lot of work around governance and assurance'.[337] This includes reviewing the assessments that agencies must prepare for all-ICT and ICT-enabled initiatives as part of Queensland's ICT Program and Project Assurance Framework.[338]

5.79   Mr Mills also informed the Committee that any new investment or any proposed increase in the budget of a project had to come through his team for appraisal. While Mr Mills does not have any veto powers, he is nonetheless in a position to provide his opinion on any such request to the agency, the Directors-General ICT Council, and the Minister.[339]

5.80   In New Zealand, the NZGCIO has a broader oversight remit. Firstly, the NZGCIO's team is required to review and sign off on each agency's strategic ICT documentation. The imperative is to ensure that an agency's individual strategy aligns with the whole-of-government ICT Strategy and Action Plan. While the NZGCIO team can not intervene on the development of these documents, they can engage the agency and The Treasury if they believe wasteful investment plans are being proposed. The New Zealand Government Chief Technology Officer, Mr Tim Occleshaw, lauded the value of this process, saying that it provides the NZGCIO's team with 'a great source of information about the forthcoming investment pipeline.'[340]

5.81   As noted at 4.9 above, the NZGCIO is also required and expected to provide a 'second line of advice' to Ministers on ICT spending proposals. The NZGCIO does not have to approve proposals, nor is there a right of veto. Mr Occleshaw claimed that veto powers would be inappropriate because agencies could start to apportion blame to the NZGCIO for not being able to carry out their functions. As it stands, the process naturally encourages agencies to approach the NZGCIO's team well before any business case goes to Cabinet. According to Mr Occleshaw, 'agencies know that Ministers want our opinion.'[341]

5.82   Notably, the NZGCIO does have some intervention powers as part of the mandate to provide system-wide assurance on the status of ICT risks (referred to at 5.10 above). Mr Occleshaw advised that if a project 'is going badly wrong, or the governance isn't right, or the risks aren't being managed', the NZGCIO can appoint one of the major accounting firms to investigate. The cost of the

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337 Mr Andrew Mills, Queensland Government Chief Information Officer, Briefing, 7 March 2016.
338 ibid. See also, Queensland Government Chief Information Office, _ICT Program and Project Assurance Framework_, Version 1.0.2, February 2014
339 ibid.
340 Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.
341 ibid.

investigation is borne by the agency.[342] Mr Occleshaw confirmed that the NZGCIO has yet to invoke this power. What the NZGCIO team has found is that agencies have contacted them for assistance when projects have shown early signs of trouble. For Mr Occleshaw, such pro-active behaviour from agencies indicates that the system in place is starting to work.[343]

Current status in WA

5.83   In response to a question from the Committee, Mr Nunis confirmed that he does not have a mandate similar to that of the NZGCIO to sign-off on agency strategic ICT plans or to provide a second line of advice to Ministers. However, Mr Nunis added that under a current informal arrangement, Treasury refers 'any significant ICT proposals within government' to his office.[344]

5.84   Mr Nunis expressed some reluctance about the idea of the WAGCIO assuming a 'gatekeeper' role.[345] For the moment, he has instead 'expressed' his view to all government agencies that they should engage the WAGCIO early for any ICT proposal 'of some significance'.[346]   This will enable the WAGCIO to help agencies 'structure their particular proposal, its relevance to the ICT Strategy, [and] to ensure its compliance.'[347]

5.85   The onus also appears to remain with agencies to seek the WAGCIO's assistance should an ICT program or project run into difficulty. In its submission, the WAGCIO said it will 'provide oversight of key strategic projects and intervene to stabilise cost and optimise outcomes.'[348] However, Mr Nunis, in subsequent testimony to the Committee implied that such interventions will only take place if the WAGCIO is invited by an agency (see 3.36 above).

Committee's View

5.86   As noted at 3.35 above, the WAGCIO's oversight functions appear to be somewhat narrower than those in place in Queensland and New Zealand. The Committee is concerned that this is the case given the State's inconsistent record with the management of its ICT requirements. The WAGCIO has confirmed that one of the primary reasons it has been established is to

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342 Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

343 ibid.

344 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 9.

345 ibid.

346 ibid., p. 10.

347 ibid.

348 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 8.

'influence and lead effective ICT investment, stabilise ICT costs … and enhance ICT project outcomes' across the WA public sector.[349] The Committee believes that the WAGCIO will need a stronger and clearer oversight mandate if it is to effectively perform this aspect of its role. There are two areas that the Committee feels should be addressed.

5.87   Firstly, the Committee thinks the ambiguity surrounding the WAGCIO's capacity to intervene on projects should be clarified. Based on the evidence it has taken, the Committee is not convinced that the WAGCIO has the capacity to intervene unless invited by an agency. While agencies should continue to exercise a significant degree of autonomy in their decision-making, they may not always be best-placed to determine (or willing to concede) that an ICT initiative under their control is in trouble. Hence the potential value of clearly vesting some limited form of intervention power with the WAGCIO.

5.88   The Committee has learned that the NZGCIO has a clear mandate to intervene in limited circumstances, but has not yet invoked this capacity. Instead, agencies have become more willing to approach the NZGCIO for advice when they are experiencing difficulties. This is an ideal outcome and it provides a persuasive argument as to why clarity is needed regarding whatever capacity the WAGCIO has to intervene.

Finding 37

The WAGCIO's functions regarding the oversight of agency ICT investments and strategic plans appear to be narrower in scope than those of similar offices in New Zealand and Queensland.

Finding 38

In its submission to the Inquiry, the WAGCIO stated that it will 'provide oversight of key strategic projects and intervene to stabilise cost and optimise outcomes.'

In subsequent testimony to the Committee, the WAGCIO implied that such interventions will only take place if it is invited by an agency.

Recommendation 10

The WAGCIO make clear to public sector agencies the circumstances under which it will intervene to stabilise costs and optimise the outcomes from ICT investments.

5.89   The Committee's second concern relates to the extent to which the WAGCIO will get to view ICT investment ideas put forward by agencies. It appears that Queensland and New Zealand have processes in place in this area that WA could

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349 Submission No. 12 from the Office of the Government Chief Information Officer (WA),
      11 September 2015, Cover Letter, p. 1.

benefit from implementing. The Committee was particularly impressed by the NZGCIO's role in signing off on agency ICT strategies and providing a second line of advice to Ministers on investment proposals.

5.90   At its second hearing with the WAGCIO, the Committee expressed its enthusiasm for this concept and its applicability in WA. The following conversation ensued:

> **Chair:** *I have to admit I am a bit nervous about agencies being able to go and develop their own solutions without going through you.*
>
> **Mr Nunis:** *Yes.*
>
> **Chair:** *Perhaps that is something you should talk about to the New Zealand Chief Information Officer and discuss it with him and perhaps put it forward as a suggestion.*
>
> **Mr Nunis:** *I understand where you are coming from.*
>
> **Chair:** *I think you would get some support*.
>
> **Mr Nunis:** *Yes. I do not have the resources. It is significant. The number of proposals that come through in terms of ICT are substantial in nature.*[350]

5.91   The resourcing concerns that Mr Nunis has expressed in this exchange are legitimate and are a manifestation of the comparative lack of staff his office currently operates with in comparison to his counterparts in New Zealand and other jurisdictions. The Committee has raised this issue earlier in this report (see 3.65 above) and will not go into further detail here. Instead, it would like to highlight what is sees as the potential for Finance's Government Procurement unit to assist the WAGCIO in performing an expanded oversight role.

5.92   In its submission to the Inquiry, Finance indicated that the Government Procurement Unit was:

> *…working in collaboration with the* [WA]*GCIO to take a proactive part in agencies' development of business cases, procurement strategies and plans, and in the management of contracts.*[351]

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350 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 10.
351 Submission No. 3 from Department of Finance (WA), 25 August 2015, p. 3.

5.93 The Committee sees scope for this collaboration to help support a process that would allow the WAGCIO to perform a similar review and advisory function to that in place in New Zealand.

5.94 The Committee is mindful of avoiding additional layers of complexity for the WAGCIO and agencies, but the inconsistent outcomes around ICT delivery in WA warrant a stricter approach to oversight.

5.95 To simplify the process, the Strategic Asset Management Framework (SAMF) process overseen by Treasury could perhaps include a requirement for the WAGCIO to sign-off on ICT strategic plans and provide advice to Ministers on ICT proposals.

5.96 The SAMF is mandated by Cabinet and is applicable to the development and review of agency Strategic Asset Plans and any business cases for all investments over $1 million. In both cases, the SAMF aims to give Cabinet, Ministers, and agencies confidence in the quality of decision-making relating to 'the investment in, and the management and disposal of, significant government assets.[352]

5.97 As the WAGCIO already receives informal referrals from Treasury (see 5.83 above), the Committee feels it would not be a significant burden on agencies or the WAGCIO (with the help of Finance) to have this process formalised, and therefore more consistently applied.

Recommendation 11

The Department of Treasury incorporate into its Strategic Asset Management Framework process a formal requirement for the WAGCIO to:

- review and sign-off on agency ICT strategic plans; and

- provide independent advice through Ministers to the Cabinet on ICT investment proposals valued at over $1 million.

Recommendation 12

The Department of Finance determine a process by which staff from its Government Procurement unit can be used to help the WAGCIO review strategic ICT plans and investment proposals submitted by agencies for comment.

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352 Department of Treasury (WA), *Strategic Asset Management Framework: Overview*, no date, p. 1.

Chapter 6

Innovative Solutions: Alternative Procurement Approaches

ICT as-a-service (consumption-based pricing models)

6.1   As noted at 2.12 above, the Committee has learned that the rapid expansion of cloud computing technologies has seen public and private sector entities move towards procuring their ICT requirements under "as-a-service", or consumption-based, pricing models.[353]

6.2   Under this model, which is generally (but not exclusively) associated with the purchase of cloud technologies, buyers are only charged for how much of a particular product or service they consume from an external supplier.[354]

6.3   Purchasing ICT requirements as-a-service represents a fundamental shift from traditional procurement approaches, where goods are purchased as fixed assets, and services or customised solutions are delivered by in-house teams or external contractors. As Datacom, a provider of as-a-service ICT goods and services explains:

> *The difference comes with the consumption pricing piece where the government is effectively and quite appropriately opting out of buying its own technology, choosing instead to procure on-demand consumption priced services.*[355]

6.4   The Government of Western Australia Office of the Government Chief Information Officer (WAGCIO) has advised that the 'adoption of cloud-based services' under these pricing arrangements has been driven by the realisation that 'the principle [of] owning and operating ICT infrastructure is not an element of core service delivery for most organisations'.[356]

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353 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, pp. 2,5; Submission No. 7 from Datacom, 11 September 2015, p. 6.
354 Submission No. 7 from Datacom, 11 September 2015, p. 6.
355 Mr Jonathan Ladd, Chief Executive Officer, Datacom, *Transcript of Evidence*, 11 May 2016, p. 3.
356 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 9.

Chapter 6

Perceived benefits of ICT as-a-service

6.5   Acquiring ICT as-a-service is said to produce several key benefits. The first relates to reduced costs. There is a commonly held view that this form of procurement enables agencies to avoid the expense of owning and maintaining ICT infrastructure, much of which now comes in the form of standardised, or commoditised, products.[357]

6.6   Moving away from the responsibilities of ownership and maintenance also allows agencies to significantly reduce the complexity and risk associated with managing their ICT resources.[358] Rather than being locked into fixed term, volume and pricing structures, as-a-service offers the potential for agencies to pay only for what they need as they need it. The WA Government Chief Information Officer, Mr Giles Nunis, said he 'always use[s] the analogy of buying electricity' to explain the consumption-based pricing arrangements associated with the as-a-service model.[359]

6.7   The other key benefit associated with as-a-service models is flexibility and agility. Free from the constraints of traditional contractual arrangements, agencies have the capacity to embrace newer technologies as they come on to the market.[360] This allows agencies to be more responsive in their approach to improving internal productivity and the quality of their service delivery.[361]

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357 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 5; Submission No. 7 from Datacom, 11 September 2015, p. 6; Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, p. 15; Department of Science, Information Technology, Innovation and the Arts (Qld), *Queensland Government ICT strategy 2013-17 action plan*, Queensland Government, August 2013, p. 46.

358 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 5; Submission No. 7 from Datacom, 11 September 2015, p. 6; Submission No. 4 from Ajilon, 10 September 2015, p. 7.

359 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, p. 4.

360 Submission No. 14 from the Australian Information Industry Association (AIIA), 11 September 2015, p. 15.

361 ibid.; Department of Science, Information Technology, Innovation and the Arts (Qld), *Queensland Government ICT strategy 2013-17 action plan*, Queensland Government, August 2013, p.9.

Finding 39

The "as-a-service" (or consumption-based) pricing model is emerging as a cheaper and more efficient alternative to the traditional approach of owning and operating ICT assets.

This new model for procuring ICT is generally, but not exclusively, associated with cloud-based computing solutions and it allows buyers much greater flexibility in managing their ICT needs.

Perceived challenges of ICT as-a-service

6.8   There are also several challenges associated with switching to as-a-service commercial structures. One of these relates to the funding process. While the acquisition of ICT as-a-service leads to an overall reduction in ICT expenditure due to lower capital requirements, recurrent expenditure needs to be higher to accommodate the regular (normally monthly) payments to suppliers.[362] This represents a major departure from traditional approaches to funding ICT that both agencies and Treasury departments need to understand when developing and subsequently considering business cases proposing as-a-service solutions.[363] Ajilon made reference to this issue when it advised the Committee that:

> *Treasury budgetary practice and process for major ICT initiatives is still premised on major capital funding with limited guidance on aaS* [as-a-service] *options.*[364]

6.9   A second challenge relates to workforce transition issues. Moving to as-a-service solutions largely eliminates the need for agencies to manage and maintain ICT assets that would otherwise be owned and operated on-site. For those employed in that capacity the implications are obvious. Therefore, agencies contemplating a departure from the traditional own and operate approach, need to consider how this issue will be managed.[365]

6.10   A further challenge relates to dealing with legacy system environments. Several sources have indicated that the financial benefits on offer from adopting as-a-service solutions can only be fully realised if an agency de-commissions all of the ICT assets they no longer require.[366]

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362 Mr Christian Thompson, Executive Director, Business Information Systems, Department of Transport, *Transcript of Evidence*, 23 March 2016, p. 8.

363 Submission No. 10 from Landgate, 11 September, p. 16.

364 Submission No. 4 from Ajilon, 10 September 2015, p. 7.

365 Mr Tim Occleshaw, Government Chief Technology Officer, and Mr Chris Webb, General Manager, Commercial Strategy and Delivery, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

366 Mr Andrew Mills, Queensland Government Chief Information Officer, Briefing, 7 March 2016; Mr John Wreford, General Manager, Finance, Information and Legal Services, Landgate, *Transcript of*

Finding 40

The perceived challenges associated with acquiring ICT as-a-service include:

- workforce transition issues that emerge from a business no longer needing as many staff to manage its ICT assets; and

- dealing with the need to decommission any redundant legacy systems.

Leading Jurisdictions

United Kingdom

6.11   The United Kingdom (UK) appears to have derived considerable financial benefit from adopting cloud-based solutions under as-a-service pricing arrangements. The UK launched its G-Cloud initiative in 2012. Under this initiative, a consolidated Digital Marketplace was established. The Digital Market Place currently allows government agencies to acquire a variety of computing needs through a whole-of-government commercial framework that offers 21,000 cloud services from a multitude of pre-approved suppliers across four broad as-a-service categories.[367]

6.12   The UK Government advises agencies that 'buying services through these frameworks is faster and cheaper than entering into individual procurement contracts.'[368] While the Committee has not been able to verify the success of this initiative, the WAGCIO has provided a report on the UK which says:

> *Adopting inexpensive, off-the-shelf cloud solutions has resulted in a reduction from £2 billion (hosting ICT internally) to £100 million using the cloud.*[369]

New South Wales

6.13   In what appears to be a similar approach to that adopted in the UK, NSW has set up the GovDC Marketplace, which is described as an 'ICT supermarket' hosted on a private government cloud platform.[370] Established in 2014, but still in its early stages of operation, the Marketplace plans to offer 'an ever increasing range of commodity ICT services' in order to support the NSW public sector 'transition to ICT as-a-service.'[371]

Evidence, 16 March 2016, p. 6; Mr Dave Jackman, Manager, Common Capabilities, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

367 Gov.UK, 'G-Cloud Buyers Guide', 24 September 2013.

368 ibid.

369 Mr Giles Nunis, A/Chief Executive and Chief Government Information Officer, Letter, 6 July 2015.

370 New South Wales Government, GovDC Marketplace, no date

371 ibid.

Australia

6.14   Annual expenditure on cloud solutions at the Commonwealth level has increased five-fold since 2012-2013 to approximately $30 million.[372]

6.15   While this figure still represents a fraction of the total annual ICT expenditure across the Australian Public Service, the Commonwealth Department of Finance has nonetheless created a Cloud Services Panel in 2015 'to provide the Commonwealth with a value for money solution to Cloud Services.'[373] As at March 2016, the Panel had 55 approved vendors offering a variety of cloud-based products and services under at least three as-a-service categories.[374]

6.16   Agencies that are authorised to use the Panel have access to an online catalogue available through an ICT Procurement Portal. Through this portal, agencies can liaise with vendors and obtain quotes, which they will then need to assess 'to determine which represent best value for money and are fit for purpose.'[375]

New Zealand – ICT Common Capability Contracts

6.17   The jurisdiction the Committee felt warranted most focus was New Zealand. Following the adoption of whole-of-government Cloud Policy in 2012, as-a-service product offerings have proliferated throughout New Zealand under a highly innovative procurement approach referred to as "common capabilities" developed and overseen by the New Zealand Government Chief Information Officer (NZGCIO) and his team.

Finding 41

Of the jurisdictions examined by the Committee, New Zealand was one of the most advanced in use of as-a-service or consumption-based pricing through its suite of ICT 'common capability' contracts.

What are common capability contracts?

6.18   Common capability contracts are 'supply agreements with approved suppliers for selected common [ICT and non-ICT] goods or services or works purchased across government.'[376] These contracts can be established by one of the select group of Functional Leaders appointed by the Government, or by another

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372 Mr John Sheridan, Australian Government Chief Technology Officer and Procurement Coordinator, Department of Finance (CWTH), Briefing, 8 March 2016.

373 Department of Finance (CWTH), 'Cloud Services Panel', March 2015.

374 Mr John Sheridan, Australian Government Chief Technology Officer and Procurement Coordinator, Department of Finance (CWTH), Briefing, 8 March 2016; Department of Finance (CWTH), 'Cloud Services Panel', March 2015.

375 Department of Finance (CWTH), 'Cloud Services Panel', March 2015.

376 New Zealand Government Procurement, 'Common Capability contracts', 20 June 2016.

agency under the delegated authority of a Functional Leader.[377] As the NZGCIO is the designated Functional Leader for ICT, his team is responsible for establishing and managing all ICT-related common capability contracts.

6.19   The NZGCIO's General Manager of Commercial Strategy and Delivery, Mr Chris Webb, explained to the Committee that the NZGCIO is taking the 'lead commercial position on behalf of government' when establishing a common capability contract.[378] However, agencies still get to choose 'what they want when they want it, how they want it, and who [among the approved suppliers] they want it from.'[379]

6.20   The NZGCIO currently manages 14 common capability contracts providing a range of cloud-based and non-cloud-based ICT-related goods and services. One of the first common capability contracts, one.Govt, launched in 2009, offers a predominantly non-cloud suite of telecommunications and security services. However, this contract does include 'fully managed cloud-based email and web protection.'[380]

6.21   In 2011, the common capability suite of ICT contracts expanded into full cloud-based as-a-service offerings, with the establishment of an Infrastructure-as-a-service (IaaS) contract. This contract allows agencies to buy core computing infrastructure requirements (data centre housing, computing, storage, and backup) on-demand via an external host. The IaaS contract has facilitated the development of subsequent ICT-as-a-service offerings (Desktop, Enterprise Content Management, Office Productivity-email and calendar)[381] that enables participating agencies to source all of their computing requirements under the common capability framework. There are now a total of six as-a-service offerings available under the common capability framework: Common Web Platform-as-a-service; Desktop-as-a-service; Enterprise Content Management-as-a-service; Infrastructure-as-a-service; Office Productivity-as-a-service; and Telecommunications-as-a-service.[382]

6.22   Of the 14 common capability contracts currently in place, five have been mandated, including one of the as-a-service offerings, the original IaaS contract. Under this mandate, agencies must procure from the common capability

377   New Zealand Government Procurement, 'Common Capability contracts', 20 June 2016.
378   Mr Chris Webb, General Manager, Commercial Strategy and Delivery, Department of Internal Affairs (NZ), Briefing, 10 March 2016.
379   ibid.
380   Department of Internal Affairs (NZ), 'One.govt', no date.
381   Department of Internal Affairs (NZ), 'Infrastructure as a Service [IaaS]', no date.
382   All information sourced from the various contracts listed on Department of Internal Affairs (NZ), 'Products and Services', no date.

contract when the need for that particular good or service arises. The other as-a-service offerings remain optional.[383]

Finding 42

The New Zealand Government Chief Information Officer's Commercial Strategy and Delivery team currently manages 14 common capability contracts offering a wide range of cloud-based and conventional ICT goods and services.

Why have ICT common capability contracts been established?

6.23   From a strategic viewpoint, ICT common capabilities have been established to help contribute towards the five key transformational outcomes listed in the revised New Zealand Government ICT Strategy 2015.[384] These outcomes are linked to improving customer service experiences when dealing with agencies, adding value, and promoting innovation in the development of ICT solutions.[385]

6.24   From a commercial perspective, common capabilities allow the NZGCIO to aggregate the New Zealand Government's purchasing power to achieve lower prices across a range of commoditised ICT products and services. Mr Webb explained that because agencies have quite similar ICT requirements, the NZGCIO has been able to use common capability contracts to 'eliminate a whole bunch of repeated procurement processes' that can occur when agencies independently approach suppliers for the same item.[386] With the major commercial negotiations now conducted by the NZGCIO, agencies are left to sign a short standardised contract with their preferred supplier. The NZGCIO's team also looks to use common capabilities to reduce the incidence of agencies pursuing more expensive specialised solutions when standardised offerings would suffice.[387]

How are common capability contracts established?

6.25   The NZGCIO's team has adopted an innovative approach with suppliers when establishing common capability contracts. Rather than approach with a heavily

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383 All information sourced from the various contracts listed on Department of Internal Affairs (NZ), 'Products and Services', no date.

384 ibid.

385 The five transformational outcomes are: Customers experience seamless, integrated and trusted public services; Information-driven insights are reshaping services and policies, and adding public and private value; Adoption of information and technology innovations is accelerated and value is being created; Investment in innovative digital services is being prioritised and benefits are being realised; and, Complex problems are being solved and innovative solutions are being adopted. See, Department of Internal Affairs (NZ), 'Government ICT Strategy 2015', no date.

386 Mr Chris Webb, General Manager, Commercial Strategy and Delivery, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

387 Mr Chris Webb, General Manager, Commercial Strategy and Delivery, and Mr Dave Jackman, Manager, Common Capabilities, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

prescribed proposal document, the NZGCIO team will describe its business opportunities and problems and ask for the suppliers to develop an appropriate solution. Early market engagement with suppliers via a series of workshops is undertaken before commencing the formal procurement process. Shortlisted suppliers are selected through the procurement process and contracts signed with the approved panel of suppliers.[388] In a recent example (referred to previously at 3.66 above), the NZGCIO's team held 70 workshops with 42 vendors before the latest common capability contract (Telecommunications-as-a-service) was established.

6.26 The number of approved suppliers varies across each of the common capability contracts, but panels appear to be much smaller than those in place under the UK's Digital Marketplace and the Australian Government's Cloud Services Panel (see 6.11 and 6.15 above). For example, the NZGCIO's recent Telecommunications-as-a-service contract has 12 approved suppliers, while the IaaS contract has only three.[389]

6.27 The NZGCIO's team enters into a Lead Agency Agreement with each supplier. This document confirms the governance arrangements, the commercial terms and conditions, and all of the items, initial prices, and service levels that will be offered in the supplier's Service Catalogue. Agencies wishing to procure from one of these catalogues then enter into a fairly simple subscription agreement with their chosen supplier. The subscription agreement sets out what is to be procured and how much of the particular product or service they are initially looking to consume.[390] Mr Webb, whose Commercial Strategy and Delivery team manages the full portfolio of common capability contracts, has confirmed that:

> *…agencies only need to engage in determining what they need, they don't have to worry about the terms and conditions.*[391]

6.28 It is important to note that while the NZGCIO sets up the commercial framework, it does not purchase ICT on behalf of the agencies. However, to fund its portfolio management activities, the NZGCIO does take, on average, a one per cent

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388 Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

389 See Department of Internal Affairs (NZ), '<u>Telecommunications as a service</u>', no date; Department of Internal Affairs (NZ), '<u>Infrastructure as a Service [IaaS]</u>', no date.

390 Ms Jane Kennedy, Manager, All of Government ICT Commercial Services, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

391 Mr Chris Webb, General Manager, Commercial Strategy and Delivery, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

margin from agencies based on the value of any subscription agreement signed with an approved supplier.[392]

6.29   As part of these ongoing portfolio management activities, the NZGCIO maintains regular contact with all approved suppliers to renew all Lead Agency Agreements and to negotiate the addition of new items to the Service Catalogues.[393]

<u>What are the key features of common capability contracts?</u>

6.30   Some of the key features of common capability contracts are particularly noteworthy and innovative when compared to traditional whole-of-government panel arrangements in other jurisdictions.

6.31   Firstly, the NZGCIO has stipulated within these contracts that prices cannot automatically go up. Conversely, the opportunity for price reductions is available via volume price breaks that take effect if the sector-wide consumption of a particular good or service reaches an agreed trigger level.[394] Price can also be lowered by an approved supplier in the event that a particular technology becomes cheaper for them to deliver and they decide to pass the savings on.[395]

6.32   Importantly, common capability contracts are based on the concept of a single price for government. Therefore, any price drop given to any agency—whether triggered by a volume price break, or offered by way of a supplier discount—is passed on to all other agencies consuming the same item from that particular supplier.[396]

6.33   Other notable features of common capability contracts emanate from the fact that agencies are not locked-in to traditional structures where the price, term, and volumes are fixed. This leaves agencies scope to switch between any of the approved suppliers on the panel, and to consume only what they need. This mitigates their previous tendency to over provision when purchasing, which resulted in assets remaining unused or under-utilised.[397] The NZGCIO has

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392   Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

393   Mr Dave Jackman, Manager, Common Capabilities, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

394   Ms Jane Kennedy, Manager, All of Government ICT Commercial Services, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

395   Mr Jonathan Ladd, Chief Executive Officer, Datacom, *Transcript of Evidence*, 11 May 2016, p. 4.

396   Submission No. 7 from Datacom, 11 September 2015, p. 8; Mr Jonathan Ladd, Chief Executive Officer, Datacom, *Transcript of Evidence*, 11 May 2016, p. 4; Mr Chris Webb, General Manager, Commercial Strategy and Delivery, and Mr Dave Jackman, Manager, Common Capabilities, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

397   Mr Chris Webb, General Manager, Commercial Strategy and Delivery, and Mr Graeme Hearfield, Senior Advisor, Market Insights, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

confirmed that system refreshes are also included in some of the contracts, including the IaaS, meaning agencies do not have to pay for upgrades.[398]

6.34   For suppliers, benefits are derived from the fact that they no longer have to continually market to agencies and repeatedly engage in full procurement processes. This enables the suppliers to dedicate more resources to product development.[399] There is also a level of greater investment certainty on offer in some cases. For Datacom, who is one of the three suppliers on the mandatory IaaS contract, planning around their investment decision was helped by the knowledge that the NZGCIO was 'corralling' several hundred million dollars' worth of agency expenditure into the deal.[400]

Benefits and notable achievements

6.35   The NZGCIO has reported a substantial level of participation from agencies procuring via common capability contracts. While the five mandated contracts currently apply to around 60 agencies, there are over 120 agencies utilising the full suite of products and services under the common capability framework.[401] Forty-five of these agencies are considered to be 'highly engaged', which means that the majority of their ICT needs are being sourced through common capability contracts.[402] As an example to other agencies, the Department of Internal Affairs in which the NZGCIO is based, currently procures from 11 of the 14 contracts.[403]

6.36   The NZGCIO has confirmed with The New Zealand Treasury that the 'collective savings so far over the major common capability contracts exceed NZD$250 million'.[404] These savings are calculated in terms of costs avoided. For instance, the NZGCIO team advised the Committee that take-up of IaaS platform has resulted in agencies collectively paying NZD$100 million less than they would have under the former contractual structures.[405] One of the common capability contracts the NZGCIO established was a software licensing agreement with

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398 Ms Sophary Dim, Product Manager, All of Government Common Capabilities, Department of Internal Affairs (NZ), Briefing, 10 March 2016

399 Mr Chris Webb, General Manager, Commercial Strategy and Delivery, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

400 Mr Jonathan Ladd, Chief Executive Officer, Datacom, *Transcript of Evidence*, 11 May 2016, p. 3.

401 Note that agencies in this context include local government entities, which are outside the scope of the mandate.

402 Mr Dave Jackman, Manager, Common Capabilities, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

403 Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

404 ibid.

405 Mr Dave Jackman, Manager, Common Capabilities, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

Microsoft. The first version of this agreement, which ran between 2012 and 2015, is believed to have saved NZD$119 million across government.[406]

6.37 Other savings have been generated indirectly. Mr Webb advised that the common capability concept has reduced commercial risks relating to assurance processes, contracting, and the accreditation of suppliers. Mr Webb also suggested that while the NZGCIO incurred upfront costs from assuming these responsibilities, these costs were 'a drop in the ocean' compared to what was previously incurred with all agencies doing this work independently.[407]

6.38 There is also some evidence of supplier satisfaction with price resets commonly observed. Speaking in reference to the IaaS contract, Mr Webb indicated there had been 'hundreds of changes' since its inception due to both product innovations and volume price breaks.[408]

6.39 Finally, there is evidence that the NZGCIO team's active portfolio management activities have helped facilitate improved investment outcomes from participating agencies. In one example, the Inland Revenue Department was contemplating the ICT components of a NZD$1.5 billion new tax system. Working with the NZGCIO, the Department found that most of their ICT requirements could be sourced under the current suite of common capabilities, including some service level agreements they already had in place. For the requirements that were outside the scope of the common capabilities, Mr Webb's team approached the market and had these items added to the existing catalogue system.[409]

6.40 In another example, a department whose Minister had rejected a NZD$130 million business case to fully replace a 12 year-old ICT system, sought out the NZGCIO team to explore other options. Ultimately, the department was able to source all its requirements via an as-a-service offering, the cost of which was able to be covered by part of the agencies operating revenues. As Mr Tim Occleshaw explained, 'that was just different people looking at the same problem in a different way to produce a great outcome.'[410]

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406 Mr Dave Jackman, Manager, Common Capabilities, Department of Internal Affairs (NZ), Briefing, 10 March 2016.
407 Mr Chris Webb, General Manager, Commercial Strategy and Delivery, Department of Internal Affairs (NZ), Briefing, 10 March 2016.
408 ibid.
409 ibid.
410 Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

Chapter 6

The New Zealand Government Chief Information Officer's staff have confirmed that more than 120 agencies are now consuming from the ICT common capability contracts.

The New Zealand Treasury has confirmed that the major common capability contracts have thus far generated more than NZD$250 million in savings by way of future costs avoided.

Ongoing Challenges

6.41   Despite these notable achievements, the NZGCIO's team acknowledges that challenges consistent with those referred to in paragraphs 6.9 and 6.10 above still exist and require ongoing effort to overcome.

6.42   It is perhaps unsurprising that the more prominent challenges are cultural. The NZGCIO conceded that some of those staff responsible for the ICT requirements within agencies have been slow to embrace the new procurement model. As a result, these individuals may try to promote the argument as to why their agency needs to persist with the traditional own and operate approach. Mr Dave Jackman, who is the Manager of All of Government ICT Common Capabilities, recognised this as an ongoing issue and said that part of the NZGCIO's ongoing role is to help such agencies on the reform journey.[411]

6.43   Workforce transition issues are also generated by the fact that agencies that move across to as-a-service offerings no longer require sizeable business units to manage their ICT infrastructure. While this is an ongoing challenge across the sector, the NZGCIO's team has observed examples where staff from these business units go over to the suppliers. Mr Jackman referred to an example from one agency where '55 IT systems management specialists …effectively moved over to the vendor market as the department shifted to an aaS model.'[412]

6.44   Legacy systems present a further challenge that has the potential to undermine any savings and efficiency gains that might be accrued under this new approach to procuring ICT. On this point, Mr Jackman advised that 'agencies have proven very keen to turn stuff on, but very reticent to shut things off.'[413] For the NZGCIO, and indeed any other jurisdiction contemplating a similar approach, this is an issue that needs to be properly managed.[414]

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411 Mr Dave Jackman, Manager, Common Capabilities, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

412 ibid.

413 ibid.

414 ibid.

Current status in WA

Common Use Arrangements

What are Common Use Arrangements?

6.45   WA public sector agencies currently source the majority of their standardised ICT requirements through a set of Common Use Arrangements (CUAs) administered by the Department of Finance (Finance).

6.46   A CUA is a 'whole-of-government standing offer arrangement' that establishes a panel of pre-approved suppliers for a range of goods and services commonly used by government agencies.[415] The WA Government's current procurement policy framework stipulates that agencies must purchase under a CUA where one exists for that particular good or service. While exemptions from this process are available, they require the approval of an 'authorised officer' from Finance.[416]

6.47   There are currently 15 CUAs in place under the Information Technology category. These cover a wide range of options including: ICT Services; ICT Network Infrastructure Solutions; and Data Centre Facilities.[417]

6.48   Finance has described CUAs as an 'efficient buying tool' that simplifies commercial dealings between agencies and suppliers. However, the Committee has been advised that CUAs do present some limitations when used for ICT purchases.

Limitations of CUAs

6.49   In its submission, the WAGCIO indicated that CUAs were expected to enable agencies to 'group buy' their common ICT needs.[418] This would allow them to utilise their aggregated purchasing power to obtain cheaper pricing. While supportive of the concept behind CUAs, the WAGCIO nonetheless argues that 'they have not delivered the expected benefits.'[419] The WAGCIO went on to list several factors that might have contributed to this outcome.

6.50   Firstly, CUAs are established without an upfront volume commitment from the Government. The uncertainty this creates for the market, coupled with the fact that agencies are not collaborating to buy in bulk, has meant that approved

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415 Department of Finance (WA), 'Supply Policy – Common Use Arrangements', 2 May 2016.
416 ibid.
417 Department of Finance (WA), 'Whole of Government Contracts WA – Information Technology', no date.
418 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 3.
419 ibid.

suppliers are generally offering maximum process, or 'rack rates', to individual agencies when individual agreements are established.[420] While there is scope for agencies to negotiate lower prices, Mr Nunis has observed that some agencies have tended to be 'a bit passive in those situations.'[421]

6.51   Secondly, CUAs are generally fixed for terms of up to five years. The certainty provided by these arrangements is suitable with some general product categories, but less so in what the WAGCIO referred to as 'the dynamic ICT context.'[422] In this particular area, the relative rigidity of CUAs prevents agencies from taking advantage of technologies as they become cheaper. Mr Nunis confirmed that even though prices for many commoditised ICT items are continuing to fall, prices set under CUAs are linked to inflation leaving agencies committed to paying above market prices.[423]

6.52   The fixed nature of CUAs also makes it harder for agencies to benefit from new products and services that come on to the market as technologies evolve. Cloud-based offerings are a current example. While these technologies have proliferated in recent years, the current set of CUAs does not appear to cater extensively for them. Landgate is one agency that confirmed it had 'some challenges in terms of procuring cloud-based services under a CUA', which resulted in it having to apply for an exemption from the CUA process.[424]

GovNext-ICT Program

What is the GovNext-ICT Program?

6.53   In August 2015, the WAGCIO initiated the GovNext-ICT Program (GovNext-ICT) in an attempt to move away from the State's reliance upon the CUA framework to deliver commoditised ICT goods and services.

6.54   Under this program, the WAGCIO is working in collaboration with Finance to establish:

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420   Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, p. 3; Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 3.

421   Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 11.

422   Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 3.

423   Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, p. 3.

424   Mr Michael Bradford, Chief Executive Officer, Landgate, *Transcript of Evidence*, 16 March 2016, p. 10.

… a whole-of-government Head Agreement for the provision of a consumption based service model for compute[425]*, storage, cloud computing, and a unified government communications network for the Western Australian public sector.*[426]

6.55 More specifically, the Government has called on suppliers to prepare proposals for:

- *Data Centre Co-Location services, allowing Government to consolidate its more than 60 data centre instances into a small number of geographically distributed high-grade, high-efficiency data centres with redundant, high-speed network connections.*

- *A multi-tenanted private cloud capability and seamless Public Cloud Integration*[427]*, with comprehensive security, reporting, and user self-provisioning capability, allowing Government to migrate its 18000+ virtual servers into the cloud.*

- *An interconnected State-wide communications network capability across the whole-of-government, providing high quality communication services to public sector employees regardless of location (metropolitan, regional and remote) and significant capital cost savings across the public sector.*[428]

Why has the GovNext-ICT Program been initiated?

6.56 GovNext-ICT reflects an attitudinal shift towards the procurement of commoditised ICT requirements in the WA public sector. It will allow agencies to shift from the customary own and operate approach to focus more on consumption-based or as-a-service pricing arrangements for their ICT needs.[429]

6.57 Both the WAGCIO and Finance have claimed that GovNext-ICT will allow the Government to 'act more as a single customer bloc' in order to negotiate 'lower

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425 A term used to describe computing capability.

426 Office of the Government Chief Information Officer (WA), *Invitation for Expressions of Interest: GovNext-ICT* (Part A), November 2015, p. 4.

427 For definitions of public and private cloud deployment models, please refer to the section starting at paragraph 7.11.

428 Office of the Government Chief Information Officer (WA), *Invitation for Expressions of Interest: GovNext-ICT* (Part A), November 2015, p. 4.

429 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 12; Office of the Government Chief Information Officer (WA), *Invitation for Expressions of Interest: GovNext-ICT* (Part A), November 2015, p. 4.

whole-of-government prices for technology services.'[430] As the products and services being targeted under the program represent approximately 40 per cent of the Government's current ICT costs (see 3.87 above), this is expected to lead to 'significant savings'.[431]

6.58   In addition to the anticipated savings, GovNext-ICT aims to facilitate greater flexibility than what is currently available under the CUA framework. This should allow agencies to quickly 'take advantage of rapid technological advancements' in the ICT sector, especially cloud-based offerings.[432]

6.59   It is also expected that these technologies will lead to a more integrated and interoperable systems and communications network across all government agencies.[433] From this, and other reform initiatives, it is envisaged that agencies will be able to improve the quality and accessibility of the services they offer to the public.[434]

Finding 44

In August 2015, the WAGCIO initiated the GovNext-ICT Program (GovNext-ICT). Once implemented, it is envisaged that GovNext-ICT will allow agencies to shift from the customary own and operate approach to focus more on consumption-based or as-a-service pricing arrangements for their ICT needs.

Finding 45

Under GovNext-ICT, the WAGCIO is looking to award five-year contracts, with the option of a five-year extension, to a panel of two to three head contractors for the provision of a consumption based service model for compute, storage, cloud computing, and a unified government communications network for the Western Australian public sector.

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430 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 12.

431 ibid.; Ms Anne Nolan, Director General, Department of Finance, *Transcript of Evidence*, 23 March 2016, p. 9.

432 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, p. 2; Office of the Government Chief Information Officer (WA), *Invitation for Expressions of Interest: GovNext-ICT* (Part A), November 2015, p. 4.

433 Office of the Government Chief Information Officer (WA), 'GovNext-ICT Contract Principles', provided to the Committee at the public hearing held on 18 May 2016.

434 Hon. Bill Marmion MLA, (Minister for State Development; Finance; Innovation), *Western Australia shifts to digital innovation*, Media Statement, 25 May 2016.

Finding 46

The WAGCIO anticipates that GovNext-ICT will lead to significant savings on ICT, provide agencies with the agility to take advantage of rapid technological advances, and promote greater interoperability of systems and communications networks across the public sector.

<u>What is the current status of the GovNext-ICT Program and how will contracts be structured?</u>

6.60   As noted previously (see 3.43 above), the WAGCIO has shortlisted six preferred vendors for GovNext-ICT. The entities shortlisted are: Atos; Datacom; Dimension Data; IBM; NEC and Telstra.[435] The final proposals from these vendors were due to be evaluated by mid-August 2016 and the WAGCIO is currently expecting to finalise head contracts with a panel of two to three 'prime contractors' in November 2016.[436]

6.61   The WAGCIO's preference for a smaller panel is one of several similarities GovNext-ICT appears to share with the common capability contract model that has been operating effectively in New Zealand.

6.62   Consistent with the approach taken in New Zealand, the WAGCIO team is conducting negotiations on behalf of government and is looking to establish an overarching head contract with each of the prime contractors. These contracts will be based on five-year terms with the option of a five-year extension and will establish the initial commercial arrangements (e.g. goods and services offered, initial pricing structures, and overall performance levels).[437] These arrangements will be framed within a set of 17 'GovNext-ICT Contract Principles' (the Principles), which outline the WAGCIO's expectations regarding the conduct and obligations of agencies and suppliers. While reference is made to these principles in some of the paragraphs below, the full list has been included at Appendix Two.

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435   Mark Pownall, 'Suppliers shortlist for GovNext ICT overhaul', *Business News Western Australia* (Online), 15 April 2016.

436   Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2015, p. 3. Newspapers reported on 10 September 2016 that Atos, Datacom, and NEC had been declared as winners of the prime contracts. See Nick Sas, '$3b triple-tech play for WA', *The West Australian* (Online), 10 September 2016. However, the WAGCIO has confirmed the finalisation and official announcement of the prime contracts is not expected to occur until early November. Ms Marion Burchell, Acting Executive Director, Policy and Governance, Office of the Government Chief Information Officer (WA), Telephone, 12 September 2016.

437   Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, pp. 3,6; Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 4.

6.63 Similar to their counterpart office in New Zealand, the WAGCIO will not purchase ICT on behalf of individual agencies. Instead, agencies will retain control over their ICT expenditure and will establish basic service level agreements with their preferred supplier and consume on an as needs basis.[438] The Principles state that each of the suppliers will be expected to provide 'comprehensive service catalogues to allow agencies a simple choice between providers and between different service options.'[439]

6.64 As was the case with the IaaS common capability contract in New Zealand (see 6.34 above), the WAGCIO has sought to provide a level of certainty for suppliers by offering what is, in effect, a minimum whole-of-government volume commitment. This comes about through two primary means.

6.65 Firstly, nine agencies have undertaken to transition into GovNextICT, with the Department of Education and WA Police assuming lead agency roles. Collectively, these nine agencies represent approximately 80 per cent of the Government's current ICT expenditure [440]

6.66 Secondly, the Principles include a 'single channel selling' commitment under which 'GovNext-ICT contracts will be designated as mandatory whole-of-government arrangements in accordance with State Supply Commission polices.'[441] As a result, any government agency seeking to source goods or services captured within GovNext-ICT, with have to operate through one of the approved suppliers. Mr Nunis has confirmed that there will be 'no other procurement method' available to agencies for 'cloud services or network services or data storage.'[442]

6.67 Compliance with the single channel selling principle will be facilitated by the fact that a range of the current ICT-oriented CUAs covering items offered under GovNext-ICT will be phased out during the transition to the new commercial

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438 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 4; Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 23.

439 Office of the Government Chief Information Officer (WA), 'GovNext-ICT Contract Principles', provided to the Committee at the public hearing held on 18 May 2016.

440 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 37. The nine participating agencies are: the Department of the Attorney General; the Department of Corrective Services; the Department of Education; the Department of Finance; the Department of Health; the Department of Transport; Main Roads WA; the Public Transport Authority; and WA Police.

441 Office of the Government Chief Information Officer (WA), 'GovNext-ICT Contract Principles', provided to the Committee at the public hearing held on 18 May 2016.

442 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 7.

arrangements.[443] The WAGCIO has also advised potential suppliers that it expects 'individual agencies to quickly transition' to the head contracts once they are established.[444]

6.68   While the magnitude of the whole-of-government volume commitment has not been formally quantified, Finance has provided the Committee with correspondence that puts the estimated potential value of GovNext-ICT at as much as $3 billion.[445]

6.69   Two other similarities with New Zealand are quite significant in terms of their potential to reduce the cost of ICT for WA's government agencies. The first of these is the push towards instituting volume price breaks in GovNext-ICT's head contracts. The Principles indicate that a 'tiered pricing' structure will be established in the contracts that will provide for 'lower costs as more agencies join.'[446] Importantly, the contracts are also expected to operate under a 'continuous best price' requirement, which means that '[a] lower price offered to one agency must be offered to all.'[447]

6.70   From an ongoing portfolio management perspective, it appears that the WAGCIO is looking to establish a unit similar to the NZGCIO's Commercial Strategy and Delivery Team. In a communique released on 22 June 2016, the WAGCIO confirmed plans to create a 'dedicated team' of procurement and ICT specialists that will be known as the GovNext-ICT Service Broker (GSB).[448] The Communique added that the GSB will be expected to 'operate, maintain and drive the benefits realisation targeted from the GovNext-ICT Program.'[449] Mr Nunis has advised the Committee that part of the GSB's remit will include negotiating with the prime contractors at a whole-of-government level regarding any proposed price reductions or additions to their line of product offerings.[450]

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443 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 8; Mrs Stephanie Black, Executive Director, Government Procurement, Department of Finance, *Transcript of Evidence*, 23 March 2016, p. 7.

444 Office of the Government Chief Information Officer (WA), *Invitation for Expressions of Interest: GovNext-ICT* (Part A), November 2015, p. 4.

445 Mrs Stephanie Black, A/Director General, Department of Finance, Letter, 6 April 2016.

446 Office of the Government Chief Information Officer (WA), 'GovNext-ICT Contract Principles', provided to the Committee at the public hearing held on 18 May 2016.

447 ibid; Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 3.

448 Office of the Government Chief Information Officer, 'Business Impact Group and Chief Information Officer Advisory Committee – Communique', 22 June 2016.

449 ibid.

450 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 5.

6.71   According to *Digital* WA, the WAGCIO is hoping to have the GSB set up by the end of 2016.[451]

6.72   Other notable features of GovNext-ICT include an innovation clause that will require the approved suppliers to report regularly on technological advances that might be incorporated into their service catalogues through an expedited procurement process with the GSB.[452] Mr Nunis said he is also looking at ways in which suppliers might assist agencies in the transition from legacy systems via the purchase of government ICT assets in circumstances where it is mutually beneficial.[453]

6.73   In terms of supplier incentives, the Principles confirm that the prime contractors will be 'incentivised to reduce the State's ICT footprint and costs.'[454] However, when he appeared before the Committee Mr Nunis indicated that he was still discussing with the six potential vendors how bonuses or rewards might be incorporated into the contractual arrangements.[455] As to the penalties, the Principles state there will be scope for suppliers to be removed from the service panels 'if their performance is inadequate or if they cannot provide interoperable services.'[456]

Finding 47

So far, nine agencies have formally committed to transition to the GovNext-ICT commercial framework. These agencies represent 80 per cent of the Western Australian Government's annual ICT expenditure.

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451 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 37.

452 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 4.

453 ibid.

454 Office of the Government Chief Information Officer (WA), 'GovNext-ICT Contract Principles', provided to the Committee at the public hearing held on 18 May 2016.

455 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 6.

456 Office of the Government Chief Information Officer (WA), 'GovNext-ICT Contract Principles', provided to the Committee at the public hearing held on 18 May 2016.

Finding 48

The contractual structures the WAGCIO is proposing under GovNext-ICT will feature several elements similar to the common capability contracts in place in New Zealand. These include:

- A whole-of-government volume commitment to the head contractors.

- Volume price discounts, under which head contractors will lower prices when agreed consumption thresholds are met for a particular product or service.

- A continuous-best price arrangement where a lower price offered to one agency must be offered to all consuming the same product or service.

Finding 49

The Department of Finance has provided the Committee with correspondence that puts the estimated potential value of the GovNext-ICT Program at as much as $3 billion.

How has the GovNext-ICT Program been received?

6.74   The Committee has observed a high degree of enthusiasm among the agencies it spoke with regarding the establishment of GovNext-ICT.

6.75   One of lead agencies for GovNext-ICT, the Department of Education, wrote in its submission about the need for all agencies to 'collaborate on common IT services … and adoption of "as-a-service" solutions.[457]

6.76   Of the other agencies to commit to GovNext-ICT from the outset, the Departments of Finance, Health, and Transport have all recently reaffirmed their intention to leverage off the program to manage their ongoing ICT needs.[458]

6.77   Among the agencies outside this group, the Department of Mines and Petroleum indicated that it has also maintained dialogue with the WAGCIO regarding the current negotiations and the potential benefits for their business.[459]

6.78   The view from industry regarding GovNext-ICT has been mixed. While there is support for concept of what GovNext-ICT is seeking to achieve[460] reservations have been expressed around the process undertaken to select the panel of

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457 Submission No. 17 from the Department of Education (WA), 25 September 2015, p. 3.

458 Ms Anne Nolan, Director General, Department of Finance, *Transcript of Evidence*, 23 March 2016, p. 9; Mrs Rebecca Brown, Deputy Director General, Department of Health, *Transcript of Evidence*, 6 April 2016, p. 9; Mr Christian Thompson, Executive Director, Business Information Systems, Department of Transport, 23 March 2016, p. 8.

459 Ms Gee Lightfoot, General Manager, Information Services, Department of Mines and Petroleum, Department of Mines and Petroleum, *Transcript of Evidence*, 6 April 2016, p. 9.

460 Mrs Cheryl Robertson, Chair WA, Australian Information Industry Association (AIIA), *Transcript of Evidence*, 18 November 2015, p. 6; Submission No. 11 from BAI, 11 September 2015, pp. 1-2.

prime contractors. One reservation related to the timing of the expression of interest period, which offered the supplier community a two-month window—including the Christmas-New Year period—to submit proposals by 12 January 2016.[461]

6.79   A further concern related to the opportunities that will be afforded the many local small and medium enterprises (SMEs) that currently provide ICT goods and services to local agencies as approved suppliers under the CUA framework.[462] This concern has continued after six major companies (see 6.60 above) were shortlisted as the preferred vendors.[463]

6.80   In what appears to be an attempt to address these concerns from the broader supply community regarding a possible crowding-out under GovNext-ICT, Mr Nunis has confirmed that the prime contractors 'will be required to have a significant number of subcontractors' as a condition of the head contract.[464] Mr Nunis has added that prior to their selection, the approved suppliers will need to have demonstrated how they will offer diversity and engage local business upon being awarded one of the head contracts.[465]

6.81   The GovNext-ICT Contract Principles also confirm that the prime contractors will be able to 'add additional suppliers' to the service catalogues covering the cloud and network product offerings.[466]

Committee's View

6.82   The Committee supports the concept of GovNext-ICT and sees it as a positive step that will help WA government agencies manage their ICT requirements in a more dynamic way than is currently possible under the CUA framework.

6.83   The Committee also sees scope for GovNext-ICT to improve outcomes from ICT investments by removing multiple procurement processes for similar items, lowering the cost of products and services, and alleviating the need for agencies to own ICT assets.

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461 Submission No. 14(A) from the Australian Information Industry Association (WA), 29 February 2016, p. 7.
462 Mr Paul Wilkins, General Manager, Innovation and Strategy, Ajilon Australia Pty Ltd, *Transcript of Evidence*, 11 May 2016, p. 5.
463 For examples of this concern see Mr Paul Wilkins, General Manager, Innovation and Strategy, Ajilon Australia Pty Ltd, *Transcript of Evidence*, 11 May 2016, p. 10; Mark Pownall, 'Suppliers shortlist for GovNext ICT overhaul', *Business News Western Australia* (Online), 15 April 2016; Nick Sas, 'GovNext ICT has six – and the rest', *The West Australian* (Online), 28 April 2016.
464 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 3.
465 ibid.
466 Office of the Government Chief Information Officer (WA), 'GovNext-ICT Contract Principles', provided to the Committee at the public hearing held on 18 May 2016.

6.84   It is encouraging to see that the GovNext ICT Contract Principles reflect many of the elements upon which New Zealand's common capability contract model is based. These include the whole-of-government commitment to buy, volume price breaks, and a single price for all agencies subscribing to a particular good or service.

6.85   It is difficult for the Committee to make a definitive comment regarding the overall prospects for GovNext-ICT, as the final details around commercial arrangements and governance structures are yet to be finalised. However, the Committee offers the following comments for consideration as the program is rolled out.

6.86   Firstly, the Committee feels that the concerns of the local SME community regarding future opportunities to supply the WA public are legitimate and need to be accommodated. While it appears that Mr Nunis is seeking to address this issue within the contract structure (see 6.80 above), it will be important to regularly monitor prime contractors to ensure they are meeting their responsibilities in this area.

6.87   Secondly, the Committee is of the view that the GovNext-ICT commercial framework will require rigorous and ongoing portfolio management. The Committee was impressed with the work the NZGCIO's Commercial Strategy and Delivery Team undertakes in regards to managing the contracts and working with agencies to devise solutions that leverage off the common capability suite of contracts. The examples referred to in this chapter (see 6.39 and 6.40 above) were just two of several similar anecdotes the Committee heard when it met with the NZGCIO and other New Zealand agencies.

6.88   The Committee commends the WAGCIO's commitment to establishing a GovNext-ICT Service Broker (GSB) to perform similar functions (see 6.70 above). However, it notes that funding to establish this body may still be in the process of being negotiated. The Agenda of the most recent meeting of the CIO Advisory Committee and Business Impact Group[467] indicates that a business case is being prepared to seek money from the ICT Renewal and Reform Fund (see 3.29 above) for establishing the GSB. With the potential value of GovNext-ICT contracts as high as $3 billion, the Committee believes it essential that a properly resourced body, be it the GSB or something similar, is established to ensure all commercial arrangements are properly managed.

6.89   Finally, the magnitude of the financial commitment around GovNext-ICT also warrants some form of independent oversight to ensure that the overall

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467 For a brief explanation of the purpose of these two bodies, refer to paragraphs 4.25 and 4.26 above.

program is being implemented as intended. In this respect, the Committee has written to the to the Auditor General asking him, under the provisions of section 8(b) of the *Auditor General Act 2006* (WA), to consider examining the initial implementation period of GovNext-ICT as part of his forward audit work program for 2017.

6.90   The Committee would like to stress that this decision is not a reflection of the work the WAGCIO has done so far. Rather, the Committee feels that it is simply prudent for the Parliament to obtain independent assurance that the implementation of a program of such significance has been completed in a manner reflecting proper practice.

Finding 50

With a potential value of $3 billion, GovNext-ICT is going to require rigorous and ongoing portfolio management.

Finding 51

The WAGCIO is looking to establish a dedicated GovNext-ICT Service Broker (GSB) to 'operate, maintain and drive the benefits realisation targeted from the GovNext-ICT Program.' The WAGCIO is planning to have the GSB established by the end of 2016.

Recommendation 13

The WAGCIO ensure that a properly resourced body, be it the proposed GovNext-ICT Service Broker or something similar, is established promptly to ensure all commercial arrangements relating to the GovNext-ICT Program are properly managed.

When establishing this body the WAGCIO should consider the structure and functions of the New Zealand Government Chief Information Officer's Commercial Strategy and Delivery Team.

Finding 52

The Committee has written to the to the Auditor General asking him, under the provisions of section 8(b) of the *Auditor General Act 2006* (WA), to consider examining the initial implementation period of GovNext-ICT as part of the forward audit work program for 2017.

Outcomes-based contracting — Commonwealth Department of Health

6.91   The Committee thought it worthwhile to briefly report on an innovative contracting approach that has been adopted by the Commonwealth Department of Health using consumption-based pricing to cover its full suite of basic computing requirements.

6.92   In April 2015, the Department confirmed that it had signed a $242 million five-year contract with Datacom for the provision of all its ICT infrastructure and support service needs.[468]

6.93   This contract is a notable departure from traditional outsourcing agreements in that is 'structured to provide an outcomes-based fully managed service, with consumption-based pricing, and a strong focus on service delivery.'[469]

6.94   In essence, the Department and Datacom have agreed to five broad outcomes, and Datacom has assumed autonomy and responsibility for devising a service solution that is based around ensuring these outcomes are achieved.[470]

6.95   The five outcomes are:

    1)   Services are available (services includes systems).

    2)   Staff/users are satisfied with the services.

    3)   Services are secure.

    4)   There is ongoing improvement in the value of the services over time.

    5)   The relationship (with the client) is strategic and based on trust.[471]

6.96   The Committee spoke with Datacom about this contract. Chief Executive Officer, Mr Jonathan Ladd, confirmed that although Datacom negotiates regularly with the Department regarding proposed solutions, the company is ultimately responsible for 'ensuring that the technology inputs will deliver those outcomes'.[472] While financial incentives for Datacom are linked to its performance against the five outcomes, the company is exposed to revenue falls

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468 Department of Health (CWTH), 'Appointment of new ICT provider for Health', Media Release, 1 April 2015.
469 ibid.
470 ibid.
471 Ms Bettina Konti, First Assistant Secretary, Digital health Division, Department of Health (CWTH), Briefing, 8 March 2016.
472 Mr Jonathan Ladd, Chief Executive Officer, Datacom, *Transcript of Evidence*, 11 May 2016, p. 8.

under consumption-based pricing should the Department's demand drop dramatically due to machinery-of-government changes.[473]

6.97 The Committee also met with the Commonwealth Department of Health to learn more about the contract's structure and outcomes. Even through the contract was still in its early implementation stages, the Department confirmed that its previous capital requirements around ICT acquisition and replacement had been effectively removed as a result of the new arrangements. It also expects to generate significant future savings by way of costs avoided.[474]

6.98 Both the Department and Datacom are of the view that it is still too early to judge the success of this model, but Mr Ladd advised that the Department of Health's contract has piqued interest among other Commonwealth agencies:

> *… because it is the first one of a large agency that has made that kind of quite radical move, in contractual terms, so people are watching it.*[475]

6.99 The Committee believes that this is a development that WA public sector agencies should also monitor in terms of its potential for future procurements of more customised ICT requirements that might fall outside the scope of GovNext-ICT.

6.100 The Committee sees potential within such arrangements to address the common failing of government agencies across jurisdictions to properly address the transfer of risk when outsourcing for the delivery of major ICT projects or programs (see 2.5 above).

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473 Mr Jonathan Ladd, Chief Executive Officer, Datacom, 'Analyst Briefing', 25 August 2015, Sydney, NSW; Mr Jonathan Ladd, Chief Executive Officer, Datacom, *Transcript of Evidence*, 11 May 2016, p. 8.

474 Mr Paul Madden, Special Advisor Strategic Health Systems and Information Management, Department of Health (CWTH), Briefing, 8 March 2016.

475 Mr Jonathan Ladd, Chief Executive Officer, Datacom, *Transcript of Evidence*, 11 May 2016, p. 8.

Chapter 7

Innovative ICT Solutions: Cloud Computing

What is cloud computing?

7.1   The commonly accepted definition of Cloud Computing is the one provided by the United States' National Institute of Standards and Technology (NIST):

> Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.[476]

7.2   The NIST definition is composed of five essential characteristics, three service models and four deployment models, each listed below:

Essential Characteristics:	Service Models:	Deployment Models:
• On-demand self-service • Broad network access • Resource pooling • Rapid elasticity • Measured service	• Software-as-a-service • Platform-as-a-service • Infrastructure-as-a-service	• Private cloud • Public cloud • Community cloud • Hybrid cloud

Essential characteristics

7.3   According to the NIST definition, the essential characteristics of cloud computing require the on-demand accessibility of computing resources and capabilities via multiple platforms. Regardless of a consumer's location, computing capability should be accessible on demand and usage should be measurable to ensure transparency for the provider and consumer.[477]

7.4   The term cloud-based service is often used interchangeably with cloud computing. In simple terms, it refers to a model 'whereby an organisation's

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476   National Institute of Standards and Technology, *The NIST Definition of Cloud Computing*, report prepared by P. Mell and T. Grance, US Department of Commerce, Gaithersburg, MD, September 2011, p. 2.

477   ibid.

software, platforms and infrastructure are hosted by an external provider and accessed securely via the internet.'[478]

7.5   Cloud computing is generally offered under 'as-a-service' or consumption-based models (discussed in the previous chapter from 6.1 above). The three common as-a-service models included in the NIST definition of cloud computing are sometimes described as a "stack": with software-as-a-service on the top; platform-as-a-service in the middle; and infrastructure-as-a-service at the base.[479] However, there are additional cloud-based as-a-service models, beyond those included in the NIST definition, which are actively employed by both private industry and government (e.g. Desktop-as-a-service and Communications or Telecommunications-as-a-service).

Service models

Software-as-a-Service

7.6   Software-as-a-service (SaaS) is a cloud-based service model in which 'software that is owned, delivered and managed remotely by one or more provider', is accessed by customers via a network, typically the internet, on a pay-for-use or subscription-based contract.[480] Microsoft's Office 365, which allows customers to order Office products online via a subscription, is an example of a SaaS.

Platform-as-a-Service

7.7   Platform-as-a-service (PaaS) is a cloud-based service model that enables customers to access applications over the internet via an external provider who hosts the necessary hardware and software within its own infrastructure.[481] A PaaS environment is commonly used as support for the development, running and management of the customer's own applications.[482] Microsoft Azure, the cloud-based operating system, is an example of a PaaS.

Infrastructure-as-a-Service

7.8   Infrastructure-as-a-service (IaaS) is a cloud-based service model whereby ICT infrastructure, commonly used for data storage, processing and back-up, is 'owned and hosted by a service provider and offered on-demand to

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478 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 9.
479 Know the Cloud, 'The Cloud Computing Stack – IaaS, PaaS, SaaS', no date.
480 Gartner, 'IT Glossary – Software-as-a-Service', 2016.
481 TechTarget, 'Platform as a Service (PaaS)', January 2015.
482 Joshi, S., ' What is platform as a service?', *Thoughts on Cloud*, 17 February 2014.

customers'.[483] The IaaS model is highly scalable and enables customers to manage their infrastructure requirements.

Desktop-as-a-Service

7.9   Desktop-as-a-service (DaaS) is a cloud-based service model in which the back-end infrastructure of a virtual desktop, including storage, back-up, security and upgrades, is hosted and managed by an external provider.[484] A personalised virtual desktop can be accessed via a login from multiple devices and is not location dependent.[485]

Communications-as-a-Service

7.10   Under Communications-as-a-service (CaaS), also referred to as Telecommunications-as-a-service (TaaS), an organisation's communications requirements are provided by an external vendor who manages the necessary hardware and software systems.[486] CaaS may include telephony, messaging and conferencing products provided via a combination of cloud and non-cloud based offerings.

Deployment models

7.11   In addition to the various cloud-based service models there are multiple cloud computing deployment models available to consumers. These deployment models: private; community; public; and hybrid represent the different cloud environments and are 'mainly distinguished by the proprietorship, size and access' of each environment.[487]

Private cloud

7.12   Private Cloud infrastructure is 'provisioned for exclusive use by a single organization comprising multiple consumers… It may be owned, managed, and operated by the organization, a third party, or some combination of them, and it may exist on or off premises.'[488]

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483 Gartner, 'IT Glossary – Infrastructure-as-a-Service', 2016.
484 TechTarget, 'Desktop as a Service (DaaS)', January 2015.
485 ibid.
486 TechTarget, 'Communications as a Service (CaaS)', April 2008.
487 IBM – Developer Works Blog, '4 Types of cloud computing deployment models you need to know', 19 August 2015.
488 National Institute of Standards and Technology, *The NIST Definition of Cloud Computing*, report prepared by P. Mell and T. Grance, US Department of Commerce, Gaithersburg, MD, September 2011, p. 3.

Chapter 7

Community Cloud

7.13   Community Cloud infrastructure is 'provisioned for exclusive use by a specific
        community of consumers from organizations that have shared concerns... It may
        be owned, managed, and operated by one or more of the organizations in the
        community, a third party, or some combination of them, and it may exist on or
        off premises.'[489] A joint-venture project is an example of when the multi-tenant
        community cloud model may be used to support the achievement of a common
        business goal.[490]

Public Cloud

7.14   Public Cloud infrastructure is 'provisioned for open use by the general public. It
        may be owned, managed, and operated by a business, academic, or government
        organization, or some combination of them. It exists on the premises of the
        cloud provider.'[491] Google Docs is a good example of a public cloud.[492]

Hybrid Cloud

7.15   The Hybrid Cloud infrastructure is a 'composition of two or more distinct cloud
        infrastructures (private, community, or public) that remain unique entities, but
        are bound together by standardized or proprietary technology that enables data
        and application portability',[493] or transferability, between cloud infrastructures.
        The resources provided in the hybrid cloud model can be managed either in-
        house or by an external provider and may exist either on or off-premises.[494]

7.16   As noted previously in Chapters Two and Six, the ICT industry is moving towards
        offering consumption-based services, as governments increasingly look towards
        shifting away from owning and operating their own ICT infrastructure. Cloud
        computing is at the heart of this economic and structural shift and while there
        can be numerous benefits with the transition to cloud computing there are also
        some challenges.

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489 National Institute of Standards and Technology, *The NIST Definition of Cloud Computing*, report
     prepared by P. Mell and T. Grance, US Department of Commerce, Gaithersburg, MD,
     September 2011, p. 3.
490 IBM – Developer Works Blog, '4 Types of cloud computing deployment models you need to
     know', 19 August 2015.
491 National Institute of Standards and Technology, *The NIST Definition of Cloud Computing*, report
     prepared by P. Mell and T. Grance, US Department of Commerce, Gaithersburg, MD,
     September 2011, p. 3.
492 Computer Hope, 'Cloud computing', no date.
493 National Institute of Standards and Technology, *The NIST Definition of Cloud Computing*, report
     prepared by P. Mell and T. Grance, US Department of Commerce, Gaithersburg, MD,
     September 2011, p. 3.
494 IBM – Developer Works Blog, '4 Types of cloud computing deployment models you need to
     know', 19 August 2015.

Perceived benefits of cloud computing

7.17 Evidence suggests that a transition towards cloud computing offers a range of potential benefits to the public sector; including, a reduction in capital and operational expenditure; flexibility with matching business needs to suit demands; and, a greater focus on delivering core services.[495]

7.18 Adopting a cloud-based as-a-service model enables a consumer to scale their consumption of various ICT goods and services up or down to suit their needs in any situation. Compared to traditional models where governments own, manage and maintain their own ICT infrastructure and systems, this model drives down ICT costs because consumers are only charged for the goods and services they use.[496] A good example of how governments are exploiting the benefits of cloud is through the use of external data centres for remote storage, processing and distribution of data.

7.19 As noted in the previous chapter, governments can further reduce ICT costs by aggregating their purchasing power to establish whole-of-government contracts with cloud computing providers that allow agencies to access commonly-used ICT goods and services on demand.[497]

7.20 The flexibility of cloud computing also benefits government, especially with meeting the needs of the modern workforce. For example, the cloud-based DaaS enables employees to access their work applications and data remotely from a mobile device (laptop, mobile, tablet, etc).[498]

7.21 Access to different cloud deployment models can also have benefits for users. The hybrid cloud model could be particularly beneficial to governments because it enables customers to exchange workloads between public cloud platforms (which are generally cheaper, but potentially less secure), and private cloud platforms; depending on the sensitivity of the workload.[499]

7.22 Finally, by adopting cloud-based as-a-service models and transferring the costs, risks and responsibilities associated with owning and managing significant ICT

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495 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016 and Submission No. 15 from Microsoft, September 2015.

496 Submission No. 15 from Microsoft, September 2015, p. 3.

497 Submission No. 9 from WA Police, 11 September 2015, p. 3.

498 Submission No. 15 from Microsoft, September 2015, p. 3.

499 IBM – Developer Works Blog, '4 Types of cloud computing deployment models you need to know', 19 August 2015.

systems to external providers, government agencies are able to focus on the core services they provide.[500]

Perceived risks and challenges of cloud computing

7.23   Despite the trend towards adopting cloud computing there remain both risks and challenges when implementing this approach. While the most cited challenge has been the cultural resistance to change within organisations, other perceived risks and challenges include security of data, delayed cost-savings and workforce transition.

7.24   Security of data, including accessibility and theft, is a common concern when considering cloud computing—especially if using a public cloud—as there is limited, if any, control over the location of the data storage. There are further concerns over data sovereignty, as data stored 'off shore' becomes 'subject to local laws potentially affecting the rights over that [data]'.[501] These concerns may be addressed by opting to use an alternative cloud deployment model and maintaining the service within the national jurisdiction.[502]

7.25   There is a risk that any cost-savings from transitioning to cloud computing will be delayed if inactive or legacy ICT systems are not decommissioned as soon as possible to avoid the unnecessary costs of running duplicate systems (see 6.44 above for an example).[503]

7.26   Workforce transition is a multifaceted challenge that accompanies any significant change to a large workplace, and cloud computing is no exception. Employees will need to be reskilled to operate in a cloud computing environment[504] and there will be a lesser reliance on internal ICT specialists to manage in-house systems (see 6.43 above for an example). There will also be an increased need for contract managers to liaise with and manage external providers and the cloud computing contracts.[505]

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500   Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 8.

501   Office of the Auditor General (WA), *Information Systems Audit*, June 2014, p. 19.

502   Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 12.

503   Submission No. 9 from WA Police, 11 September 2015, p. 3 and Mr John Wreford, General Manager, Finance, Information and Legal Services, Landgate, *Transcript of Evidence*, 16 March 2016, p. 6.

504   Submission No. 15 from Microsoft, September 2015, p. 9.

505   Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 10.

Leading jurisdictions

7.27   The Committee examined the cloud computing capabilities of several other jurisdictions during the Inquiry. While Estonia, the United Kingdom, South Korea and New Zealand were identified as the most digitally advanced countries leading the way in ICT innovation[506], Estonia and New Zealand stood out as being well-developed in the area of cloud computing.

Finding 53

The governments of Estonia and New Zealand stand out as being well-developed in the area of cloud computing.

Estonia

7.28   Estonia has been cited by authoritative sources as one of the most advanced jurisdictions in terms of online government services.[507] Many of the Government ICT initiatives currently being rolled out (or contemplated) in WA are already well-established in Estonia. In fact, the Estonian Government has been effectively using cloud services since 2009.[508]

7.29   The Estonian Government is entirely paperless, everything is digital. This has enabled Estonia to create virtual "data embassies" using cloud based data centres that backup the entire digital government in multiple offshore locations worldwide.[509] In the event of an attack, either cyber or otherwise, the entire Estonian Government could be run remotely.[510]

New Zealand

Adoption of Cloud Computing

7.30   In 2010 the New Zealand Government adopted a strategic ICT document - *Directions and Priorities for Government ICT*. [511] According to Datacom, a major provider of ICT services in New Zealand and around the globe, 'one of the key

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506 Mr Giles Nunis, A/Chief Executive and Chief Government Information Officer, Letter, 6 July 2015.

507 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, p. 11; Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

508 Taavi Kotka and Innar Liiv, 'Concept of Estonian Government Cloud and Data Embassies', in A. Ko and E. Francesconi, Electronic Government and the Information Systems Perspective 4th International Conference, EGOVIS 2015, Valencia, Spain, September 1-3, 2015, Proceedings, pp. 150.

509 Sorell, M., 'What Australia can learn about e-government from Estonia', *The Conversation*, 6 October 2015.

510 Donaldson, D., 'Australia has a 'false understanding of privacy', says Europe's top rated CIO', *The Mandarin,* 28 April 2015.

511 Department of Internal Affairs (NZ) and the State Services Commission (NZ), 'Directions and Priorities for Government ICT', 2010.

initiatives of the strategy was the development and implementation of a whole-of-government cloud policy, which required a government [IaaS] platform to be established that would be used by all agencies.'[512] Datacom, along with IBM and Revera (now Spark), became the approved suppliers under the IaaS contract.[513]

7.31 New Zealand went on to formally adopt a cloud-first policy in 2012. A New Zealand Government Cabinet note from August 2012, said 'there are significant financial, efficiency, collaboration and innovation benefits to be gained through the coordinated, all-of-government adoption of cloud computing'.[514]

7.32 This same Cabinet document noted the potential risks of adopting cloud services including; 'confidentiality, integrity and availability of data'.[515] To address these risks it was agreed that 'any cloud-based office productivity services' would be 'hosted onshore' and the Department of Internal Affairs, through the NZGCIO, was directed to work with other agencies to 'develop risk and assurance frameworks and guidance'.[516]

7.33 To complement the Cloud Policy, the New Zealand Government has adopted cloud-based services within many of its Common Capability contracts including Iaas, DaaS, PaaS, and SaaS options.[517] As noted in the previous chapter (see 6.22 above), one of these contracts, IaaS, has been mandated 'for all Public Service and non-Public Service departments'.[518] The others remain available under an 'opt-in' basis.[519]

7.34 The take up of these contracts has been significant (see 6.35 above). In its briefing to the Committee on 16 September 2015, Datacom estimated that more than 70 agencies had successfully migrated 10,000 servers to the cloud-based services offered under these common capability contracts.[520]

7.35 According to Mr Duncan Reed, the NZGCIO's General Manager, System Transformation, since the transition to cloud-based as-a-service consumption models, the New Zealand Government was saving $70 million per year on its

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512 Submission No. 7 from Datacom, 11 September 2015, p. 8.

513 Mr Jonathan Ladd, Chief Executive Officer, Datacom, *Transcript of Evidence*, 11 May 2016, p. 4.

514 New Zealand Government, 'Managing the Government's Adoption of Cloud Computing', Minute of Decision (12)29/8A, Cabinet Office, Wellington, 20 August 2012.

515 ibid.

516 ibid.

517 Department of Internal Affairs (NZ), 'Products and Services: Available Now', no date. Confirmed by Mr Dave Jackman, Manager, Common Capabilities, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

518 Department of Internal Affairs (NZ), 'Products and Services: Infrastructure as a Service (IaaS)*.*

519 Department of Internal Affairs (NZ), 'Products and Services: Desktop as a Service (DaaS)*'; '*Common Web Platform (CWP)'; and 'Microsoft Licensing Framework Agreement (G2012/G2015)', no date*.*

520 Mr David Cox, Managed Services Specialist, Datacom WA, Email, 13 September 2016.

operational budget and was on track to meet its designated whole-of-government savings target (see 3.4 above) of $100 million per annum.[521]

Finding 54

New Zealand adopted a cloud-first policy in 2012 to guide a coordinated, whole-of-government adoption of cloud computing.

Finding 55

To complement its cloud policy, the New Zealand Government has adopted cloud-based services within many of the common capability contracts established by the office of the New Zealand Government Chief Information Officer.

Agencies moving to cloud: New Zealand Ministry of Primary Industries

7.36   The Committee met with Bryce Johnson, from New Zealand's Ministry for Primary Industries (MPI) to gain an understanding of the shift to cloud computing from a departmental perspective. The MPI has been progressively transitioning to cloud-based services since 2012 and is recognised as a leader in this area. It commenced transitioning to IaaS in November 2012. Completed in mid-2013 it has seen a 30 per cent cost reduction and customer satisfaction is up to 92 per cent.[522]

7.37   The next step for MPI will be transitioning to TaaS. This will include several major changes, the first of which, network connectivity, will bring with it the benefit of improved multi-agency interoperability without any capital outlay, and anticipated savings of 25 per cent.[523]

Agencies moving to cloud: The Microsoft Licencing Agreement

7.38   In 2012, the NZGCIO entered into a three-year contract with Microsoft to 'supply subscription-based desktop and enterprise software licenses for eligible government agencies'.[524] This original contract is used by '120 agencies' and, as previously noted (at 6.36 above) it has achieved 'cost-savings of $119 million' in its first three years.[525]

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521 Mr Duncan Reed, General Manager, System Transformation, and Mr Chris Webb, General Manager, Commercial Strategy and Delivery Department of Internal Affairs (NZ), Briefing, 10 March 2016.

522 Mr Bryce Johnson, Manager Service Delivery, Business Technology and Information Services, Corporate Services, Ministry for Primary Industries, Briefing, 11 March 2016.

523 ibid.

524 Department of Internal Affairs (NZ), 'Products and Services: Microsoft Licensing Framework Agreement [G2012/G2015]', no date.

525 Department of Internal Affairs (NZ), 'News and Updates - Government Microsoft Licensing Agreement extended', 16 July 2015.

7.39   In 2015 the Microsoft Licencing Agreement was extended for a further three years. This new agreement includes 'subscription-based, perpetual, and cloud software licensing' and expires in September 2018.[526] Under current arrangements, licenses can be transferred across agencies as required. Agencies can also increase or reduce the number of licenses as needed.[527]

Current Status

7.40   The New Zealand Government ICT Strategy was revised in 2015 to 'ensure that, in a dynamic technology environment, it can achieve the government's aim of an ICT-enabled transformation of public services to New Zealanders'.[528]

7.41   A Cabinet paper from October 2015, *Review of the Government ICT Strategy*, recommended that agency Chief Executives work with the NZGCIO to 'accelerate their agencies' adoption of public cloud services'.[529]

7.42   In July 2016 measures to address this recommendation were confirmed. These measures seek to 'complement existing policies and risk assessment processes'.[530] In addition the Department of Internal Affairs will lead a 12 month implementation program to ensure the efficient, effective and secure adoption of public cloud services.[531]

7.43   According to the NZGCIO, the ongoing support from Cabinet, led by the long-serving Finance Minister, the Hon. Bill English MP has been critical to the ongoing progress of the cloud initiatives and the broader ICT reform program.[532]

Notable observations from Australian jurisdictions

7.44   Within Australia, the Commonwealth, Queensland, New South Wales and Victorian governments have all implemented some form of cloud computing

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526 Department of Internal Affairs (NZ), 'Products and Services - Microsoft Licensing Framework Agreement [G2012/G2015]', no date.

527 Mr Dave Jackman, Manager, Common Capabilities, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

528 Department of Internal Affairs (NZ), 'Strategy and Action Plan: Government ICT Strategy 2015, 15 August 2016.

529 Office of the Minister of Internal Affairs (NZ), *Review of the Government ICT Strategy,* 19 October 2015, p. 10.

530 Department of Internal Affairs (NZ), 'Guidance and Resources - Requirements for Cloud Computing, 19 July 2016.

531 ibid.

532 Mr Tim Occleshaw, Government Chief Technology Officer, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

policy with the Commonwealth and Queensland governments adopting an explicit 'cloud-first'[533] approach to ICT investment by agencies.[534]

7.45   The Committee also notes the work NSW has undertaken in using cloud-based offerings to establish consolidated data centres to cover the data storage, processing and distribution requirements of individual agencies. The Committee felt this initiative was worth briefly noting.

7.46   In 2012, as part of its ICT Strategy, the NSW Government outlined its intention to adopt a cloud-based, as-a-service approach to purchasing ICT goods and services. To facilitate this new approach the State Government committed more than $130 million to design, build and operate two world-class data centres to consolidate all of the 130 State Government agency data centres by August 2017.[535] This initiative is known as GovDC.

7.47   The NSW Department of Finance, Services and Innovation estimates that this initiative has already realised 'tens of millions' in savings from a reduction in the costs agencies had previously incurred for their floor space and energy needs.[536]

7.48   To facilitate further agency uptake, a mandate has been established that requires agencies to move to one of the GovDC data centres as their current lease arrangements expire. This mandate does provide for an exemption if an agency's systems are deemed to be too high-risk to shut down.[537]

Finding 56

The Commonwealth, Queensland, and Victorian governments have implemented whole-of-government policies that promote the adoption of a "cloud-first" approach to ICT procurement, where cloud products are available.

Finding 57

New South Wales (NSW) has used cloud-based products to establish two data centres under an initiative called GovDC. GovDC aims to consolidate the data centre requirements of 130 agencies by August 2017.

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533 The Australian and Queensland Governments have adopted an explicit 'cloud first' approach. Victoria and NSW have not been explicit, but cloud first has been very clearly implied in their respective cloud polices.

534 Australian Government Department of Finance, *Australian Government Cloud Computing Policy*, October 2014; Queensland Government, *Cloud Computing Strategy,* May 2014; NSW Government, *NSW Government Cloud Policy,* August 2015; Victorian Government, *Information Technology Strategy Victorian Government 2016-2020,* May 2016

535 Department of Finance, Services and Innovation (NSW), 'Data Centre Reform'*,* 2016.

536 Mr William Murphy, Deputy Secretary, Services and Digital Innovation, Department of Finance, Services and Innovation (NSW), Briefing, 9 March 2016.

537 ibid.

Chapter 7

Current status in WA

GovNext-ICT

7.49   As noted in the previous chapter[538], GovNext-ICT is looking to establish a small
        number of data centres providing for 'private cloud infrastructure (IaaS and
        PaaS) and Public Cloud Integration' as well as a 'unified state-wide
        communication network' based on cloud technologies.[539]

7.50   According to the WA Government Chief Information Officer, Mr Giles Nunis, one
        of the first steps of GovNext-ICT is 'co-location'.[540] To achieve this in the data
        centre sphere, the WAGCIO has obtained the commitment of nine government
        agencies in WA that are all soon due to refresh their existing contracts for these
        requirements.[541]

Digital **WA**

7.51   WA's whole-of-government ICT strategy, *Digital* WA, confirms that the WA
        Government 'is committed to the adoption of cloud computing and other pay-
        as-you-go services wherever they will deliver value and are fit for purpose.'[542] It
        goes on to add that 'agencies should evaluate cloud and other pay-as-you-go
        options for all new or redeveloped ICT services and projects.'[543] To support
        agencies transition to cloud computing, the Government of Western Australia
        Office of the Government Chief Information Officer (WAGCIO) has also released
        a whole-of-government Cloud Policy to accompany the ICT strategy (see next
        section).[544]

7.52   *Digital* WA's seventh Roadmap Theme, Technology Delivery, confirms that the
        cloud-based proposals included as part of GovNext-ICT are intended to deliver a
        'significant portion' of the savings target included within the Strategy's third KPI
        (see Table 1 above).[545]

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538 See section starting at paragraph 6.53.
539 Office of the Government Chief Information Officer, *Invitation for Expressions of Interest*, report
     prepared by Department of Finance, November 2015, p. 7.
540 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*,
     18 November 2015, p. 14.
541 ibid.
542 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian
     Government Information and Communications Technology (ICT) Strategy 2016 - 2020*,
     26 May 2016, p. 17.
543 ibid.
544 Office of the Government Chief Information Officer (WA), 'Cloud Policy', 25 May 2016.
545 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian
     Government Information and Communications Technology (ICT) Strategy 2016 - 2020*,
     26 May 2016, p. 37.

Cloud Policy

7.53   In its submission to the Inquiry, the WAGCIO estimated transitioning to cloud computing could save the Government 10-50 per cent on its current ICT expenditure, but it cautioned that 'policy direction and central guidance' were critical to 'extract[ing] maximum value' from cloud-based technologies.[546]

7.54   This guidance is now being facilitated with the release of WA's Whole of Government Cloud Policy in May 2016:

> *…to establish a cloud mindset for the consumption of infrastructure, software and platforms and encourage the widespread adoption of cloud services across the Western Australian Government'.*[547]

7.55   Interestingly, the WAGCIO has not adopted an explicit 'cloud-first' policy, a point that is made quite clear in *Digital* WA.[548] However, the terms used within the Cloud Policy reflect those used in other jurisdictions that have adopted a cloud-first approach. At a public hearing Mr Nunis explained WAGCIO's position by stating that agencies should 'look towards the use of cloud services, as it is suitable and relevant rather than a default position.'[549] He went on to add that 'cloud must be a consideration'.[550]

7.56   While there is no stated preference of cloud deployment model within the Cloud Policy, the research appears to suggest that agencies will be permitted to use public or private cloud providing the cloud model suits the needs of the agency.[551]

7.57   Some agencies in WA have already had success with transitioning to cloud computing prior to the impending arrival of the GovNext-ICT initiative. For example, the Department of Sport and Recreation has transitioned to cloud-based services for data backup and telecommunications. In doing this the

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546 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p.10.
547 Office of the Government Chief Information Officer (WA), 'Cloud Policy', 25 May 2016.
548 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 17.
549 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 9.
550 ibid.
551 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 17; Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 4.

Department has saved $150,000 on capital expenditure (though cost avoidance) and continues to save $2,000 per month.[552]

7.58 Landgate is also quite advanced in the cloud computing space. Its internal ICT strategy has adopted a cloud first, commercial off the shelf second approach that has delivered cost-savings and significantly enhanced the consumer experience.[553] For example, since moving to an automated cloud-based process for property transactions, Landgate has decreased the average document turnaround time to 1.3 days. Previously, this could have taken anywhere from 6 to 20 days.[554]

7.59 As Landgate continues to migrate to the cloud environment, its existing infrastructure will be progressively decommissioned. Noting the importance of decommissioning, CEO Mr Michael Bradford confirmed that the 'real savings will be generated when we fully disconnect from the hard infrastructure we have in our data centre and we are fully cloud based'.[555]

Finding 58

The WAGCIO released a whole-of-government Cloud Policy in 2016 to promote the widespread adoption of cloud technologies across the Western Australian Government, and to support agencies as they transition to cloud computing.

Rather than adopting the "cloud-first" mantra used in several other jurisdictions, the current policy encourages agencies to consume cloud-based offerings wherever they will deliver value and are fit for purpose.

Finding 59

The WAGCIO claims that with appropriate policy direction and central guidance in place, the transition to cloud computing could save the Western Australian Government 10 to 50 per cent on its overall ICT spend.

Committee's View

7.60 The Committee supports the adoption of cloud-based technologies in WA and acknowledges the work being undertaken by the WAGCIO with respect to GovNext-ICT and the recently released Cloud Policy.

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552 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 10.
553 Mr Michael Bradford, Chief Executive Officer, Landgate, *Transcript of Evidence*, 16 March 2016, p. 3.
554 ibid.
555 ibid., p. 5.

7.61 While the Committee appreciates that the adoption of cloud-based technologies is still relatively new in WA, it feels that it is worth highlighting the experiences of some other jurisdictions to see where lessons might be learned. The main issues the Committee would like to emphasise relate to the importance of leadership and clarity around cloud policies.

7.62 The Committee is of the view that New Zealand is well-advanced in its adoption of cloud computing. It appears that the cloud-first philosophy adopted by the Government and the ongoing support for this policy coming from the Cabinet and the NZGCIO, have been key to this outcome.

7.63 Recent events in Queensland also lend weight to the importance of having a clearly defined cloud policy coupled with high-level support and strategic leadership. Despite having adopted a 'cloud first' policy in 2014, agencies have been reluctant to transition to cloud.[556] According to a 2016 Queensland Auditor General Report, this lack of uptake is the result of the Department of Science, Information, Technology and Innovation (the agency responsible) not defining the intended benefits of the policy and not effectively overseeing the implementation of the policy.[557]

7.64 In the case of WA, the Committee agrees with the view expressed by Mr Nunis that clear policy direction and central guidance is critical to the successful adoption of cloud-based technologies. In this respect, the Committee is satisfied that the work Mr Nunis and his team has undertaken so far, especially around GovNext-ICT, represents good central guidance and strong leadership.

7.65 However, the Committee is concerned that the relatively soft language around expectations for the use of cloud technologies may undermine these efforts. Having observed cultural reluctance as a key inhibitor to innovation and successful ICT investment throughout this Inquiry, the Committee believes some agencies will require stronger encouragement than others if they are to embrace the move to cloud. Statements such as the one in *Digital* WA, which says, '[t]his Strategy is not a "cloud first policy"'[558] may be used by such agencies to resist reform in this area, and thus prove to be counter-productive.

7.66 Accordingly, the Committee sees merit in adjusting the State's policy position on cloud computing to one that advocates 'cloud-first' rather than the current position of cloud wherever it will add value and is fit for purpose.

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556 Allie Coyne, 'Qld's cloud mantra not boosting adoption', *iTnews,* 23 February 2016.

557 Queensland Audit Office, 'Cloud Computing', February 2016, pp. 1-3.

558 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 17.

7.67 This shift in language, coupled with the fact that GovNext-ICT is effectively mandating the use of all the cloud offerings included within its commercial framework (see 6.66 above), should serve to expedite to adoption of cloud solutions across the WA public sector.

Recommendation 14

The WAGCIO amend the Western Australian Government Cloud Policy to include a statement that requires agencies to adopt a "cloud-first" approach when contemplating future ICT investments.

Chapter 8

Innovative ICT Solutions: One-Stop-Shops

What is a one-stop shop?

Customer-centric service delivery

8.1   The Committee has observed a growing shift towards the development of "customer-centric" service delivery models, as governments look to adopt innovative and cost-effective solutions that improve the experiences of those required to interact with agencies.

8.2   According to Pricewaterhouse Coopers (PwC), customer-centric service delivery models, sometimes referred to as citizen-centric, require collaboration between governments and citizens during their development. As PwC explains:

> *The development of citizen-centric models calls for customer insight, looking at customers' wants and needs (both demographic and attitudinal), in a holistic manner – distinguishing means and ends, focusing on improved customer journeys and measurable benefits, and understanding the strategic risks associated with various service delivery models.*[559]

8.3   Through this collaborative approach, governments are discovering that customers increasingly want to transact online for simple tasks and they often do not differentiate between government agencies or even tiers of government.[560] Consequently, more and more governments are pursuing a "one-stop shop" approach to service delivery, and looking at what role ICT can play in this transformation.

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559 Pricewaterhouse Coopers, *Transforming the citizen experience One Stop Shop for public services,* Australia, February 2012, p. 5.
560 Ms Fiona Armstrong, General Manager One-Stop Shop Strategy and Implementation Office, Department of Science, Information, Technology and Innovation (QLD), Briefing, 7 March 2016.

Chapter 8

One-stop shop approach

8.4   The one-stop shop approach enables customers to interact with government through a single point of contact, thereby removing the need to deal with separate agencies.[561]

8.5   To achieve this, agencies must breakdown their traditional silos thereby allowing for the development of the sort of interoperable systems that enable 'seamless integration' of government services provision.[562]

8.6   A PwC paper on this issue suggests the 'optimal route' for creating a customer centric one-stop shop would be first to design the front end to 'interact effectively with the customer', then to 'realign' the internal ICT infrastructure of relevant agencies 'to effectively deliver through the front office'.[563]

8.7   According to a Deloitte Access Economics Report commissioned by the Hon. Malcolm Turnbull as Minister for Communications, there are five types of interactions between governments and citizens with varying level of complexity: information exchange between government and citizens; payments; applications and registrations; complaints and resolution; and digital services.[564] To conduct these interactions there are four broad communication channels: telephone; mail; service centres (face-to-face); and online (web and mobile).[565]

8.8   While governments are aware that more customers want to transact online, it is recognised that the more 'traditional channels' for customer interactions (service centres, telephone and mail) will 'continue to play a role'.[566]

Finding 60

The purpose of one-stop shop approaches to service delivery is to enable customers to interact with government through a single point of contact, thereby removing the need to deal with separate agencies for different business requirements.

Finding 61

While the transition to one-stop shop environments require an increasing number of government services to be available online, some level of demand for traditional communication channels (telephone; mail; service centres) is likely to continue.

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561 Pricewaterhouse Coopers, _Transforming the citizen experience One Stop Shop for public services_, Australia, February 2012, p. 5.

562 ibid., p. 8.

563 ibid.

564 Deloitte Access Economics, _Digital government transformation_, Sydney, NSW, 2015, p. 8.

565 ibid., p. 9.

566 ibid., p. 1.

Electronic identification

8.9   To transact with government services through a one-stop shop customers need to be able to identify themselves electronically. There are varying levels of online identification, from a simple username and password login with limited transaction capabilities, to a personalised electronic identity requiring a 100-point identification check that would permit a user access to the full suite of services available.[567]

8.10   At present many individual government agencies allow customers to transact (update details, pay bills or fines, etc.) online via a simple username and password based login, but because the agencies are not linked customers require a separate login for each agency.   The true value of a one-stop shop is only realised if all government agencies come on board and customers can be identified and subsequently transact through a single government interface.[568]

Perceived benefits of a one-stop shop

8.11   Customer-centric one-stop shops have the potential to bring a range of financial, productivity, and efficiency benefits, including an improved level of customer service.[569]

8.12   For example, it has been suggested to the Committee that multiple benefits will be realised from establishing a one-stop shop single payment gateway for customers, as it will reduce the duplication of services and the associated costs of running multiple payment gateways under different departments.[570]

8.13   Providing customers with a choice of multiple channels through which they can transact can also benefit governments by 'enabling flexibility for customers in how, when and where they access government services', which will improve customer satisfaction.[571]

8.14   This multi-channel approach enables the migration of 'high volume simple transactions to self-service channels'.[572] This provides both productivity benefits by allowing departmental staff to focus on the more complex transactions; and

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567 Dr Rachna Gandhi, Chief Executive Officer, Service NSW, Department of Finance, Services and Innovation, Briefing, 9 March 2016.

568 ibid.

569 Deloitte Access Economics, _Digital government transformation_, Sydney, NSW, 2015, p. 5

570 Mr Giles Nunis, Government Chief Information Officer (WA), _Transcript of Evidence_, 18 November 2015, p. 5.

571 Pricewaterhouse Coopers, _Transforming the citizen experience One Stop Shop for public services_, Australia, February 2012, p. 11.

572 ibid.

savings benefits as self-service channels are more cost efficient than the traditional channels.[573]

8.15 Deloitte Access Economics has calculated a ten-year forecast of transaction volumes and costs for the four different channels (below). These figures have been referenced by many witnesses throughout the inquiry.

Table 5: Deloitte Access Economics - Total transaction volume and cost per transaction by channel[574]

Transaction Channel	Total annual volume (millions)	Forecast channel volume in 10 years (millions)	Cost per transaction (AUD)
Face-to-face	84.1	42.6	$16.90
Telephone	139.0	70.3	$6.60
Postal	97.4	49.3	$12.79
Online	490.0	648.4	$0.40
Total	**810.6**	**810.6**	

8.16 This table demonstrates the potential cost efficiencies that might be realised through the digitisation of government services. It also highlights the importance of the multi-channel one-stop shop. Even though the modelling projects a 32 per cent increase the volume of online transactions and a drop of almost 50 per cent in the traditional channels, the expected number of transactions conducted via these traditional channels remains significant. This ongoing demand could be due to the either complexity of transactions or customer preference.[575]

8.17 Based on these figures the financial benefits of digitising government services and providing customers with a choice in how they wish to transact with governments could amount to a reduction of $1.7 billion in total annual transaction costs if transaction costs remained relatively stable.[576]

Perceived challenges of a one-stop shop

8.18 Any customer service delivery model transformation of this magnitude is going to bring with it some challenges, both internal and external. Foremost among these challenges is the overarching cultural resistance to change that exists within many government agencies.

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573 Pricewaterhouse Coopers, *Transforming the citizen experience One Stop Shop for public services,* Australia, February 2012, p. 11.
574 Deloitte Access Economics, *Digital government transformation*, Sydney, NSW, 2015, p. 24.
575 ibid., pp. 1 and 26.
576 The Committee accepts that it is highly unlikely that transaction costs will remain stable over the ten-year period. What the Committee has sought to do here is to demonstrate the potential for substantial savings that are on offer by facilitating an increase in on-line transactional capability.

8.19   This cultural resistance can create a territorial mentality within agencies that inhibits the 'cross-agency collaboration' necessary for a successful one-stop shop.[577] This unwillingness to share data across services and agencies can subsequently lead to 'duplicated processes and higher cost structures.'[578] For a citizen-centric one-stop shop to be successfully implemented it needs support from senior government to evoke the cultural change necessary to ensure collaboration between agencies.[579]

8.20   Once the decision to adopt a citizen-centric one-stop shop has been made and received internal support, there may still be external challenges when communicating these changes to the public. According to the Australian Bureau of Statistics, one-in-five Australians do not have access to the internet in their homes.[580] Therefore, the challenge will be ensuring that this cohort still has efficient access to the full suite of government services through their preferred channel.

8.21   Challenges are also likely to arise during the shift to a one-stop shop as government services are likely to transition to the new platform in stages meaning customers may need to engage with multiple channels to complete a single transaction during this period.[581]

Leading jurisdictions

8.22   Throughout the Inquiry the Committee received evidence regarding one-stop shop and electronic identification initiatives being undertaken in numerous other jurisdictions. Two of the more advanced international jurisdictions are the UK and Estonia. While the Committee was not in a position to examine these jurisdictions in detail, it is worth noting some of the key achievements in both countries.

United Kingdom

8.23   Gov.UK is the one-stop shop for government services and information in the UK. The websites of all 27 ministerial departments and 373 other agencies and public bodies have been merged into Gov.UK.[582] To simplify citizen interaction with government, the UK implemented a cross-government program called "Tell us once". This program allows citizens to report a birth or death through a single

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577 Pricewaterhouse Coopers, *Transforming the citizen experience One Stop Shop for public services*, Australia, February 2012, p. 8.

578 ibid.

579 ibid., p. 17.

580 As cited in Deloitte Access Economics, *Digital government transformation*, Sydney, NSW, 2015, p. 26.

581 ibid., p. 25.

582 Government Digital Service (UK), 'Gov.UK: Welcome to Gov.UK', no date.

point of contact'. Prior to this program, citizens had to engage with at least 44 entities when reporting a death.[583]

Finding 62

Gov.UK is the one-stop shop for government services and information in the UK. The websites of all 27 ministerial departments and 373 other agencies and public bodies have been merged into Gov.UK.

Estonia

8.24   The Committee acknowledges Estonia as one of the most digitally advanced nations in the world and a leader in the electronic identification space.

8.25   Deloitte Access Economics has suggested that the main principles behind Estonia's success are decentralisation and interconnectivity, a secure open platform, open-ended processes that evolve naturally and investment in long-term ICT infrastructure.[584]

8.26   Central to its success in e-government is the compulsory electronic identification system that enables its citizens to verify their identification from any electronic device. Currently 90 per cent of Estonian's hold an 'e-ID card'.[585]

8.27   Estonia began digitising its government services back in 1990 and there are now 'over 900 organisations (public and private) connected to the nation's e-government system [with] more than 3000 different e-services' available.[586]

8.28   The Estonian government has created a one-stop shop website for citizens—eesti.ee—that acts as a 'gateway' to the 'hundreds of e-services available by various government institutions'.[587]

8.29   While there is scope to learn from the experiences of the UK and Estonia, the Committee has focused mainly on some initiatives emanating out of New Zealand and NSW that it believes could offer beneficial insights for WA.

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583 Deloitte Access Economics, _Digital government transformation_, Sydney, NSW, 2015, p. 19.
584 ibid., p. 20.
585 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 11.
586 D Donaldson, 'Australia has a 'false understanding of privacy' says Europe's top rated CIO', _The Mandarin_, 28 April 2015.
587 e-Estonia.com – The Digital Society, _State e-Services Portal_, no date.

New Zealand

One-stop shop – Govt.nz

8.30   Govt.nz is a customer-centric one-stop shop for New Zealand Government information services. Launched in July 2014 and refreshed in February 2015 following feedback from users, the site is designed to 'provide information that is easy to find, access and use'.[588] In line with the customer-centric approach, the Govt.nz site is built around life events and the needs of the citizen, not the structure of government.[589]

8.31   The New Zealand Government has established a set of goals for Govt.nz:

- Increase usage of the digital channel by making government accessible to everyone, everywhere, and on any device.

- Make what government does easier to understand.

- Improve people's experience of government when the task involves more than one government organisation.

- Reduce duplicated information across government.

- Share our work and create solutions that can be used again.[590]

8.32   To measure the performance of Govt.nz, the Government is relying on feedback from consumers and Google Analytics. This information collected via Google Analytics is posted online and updated daily.[591] The following bullet points provide a sample of the type on information regarding the performance of Govt.nz that is available online:[592]

- 6,875,633 visits to Govt.nz since its 2014 launch.

- 16,095,946 pages of Govt.nz viewed since its 2014 launch.

- An average of over 11,400 visits to Govt.nz per day.

- The desktop is the most common device for accessing Govt.nz, followed by mobiles and then tablets.

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588 New Zealand Government, 'Govt.nz: About us', 17 June 2016.
589 Department of Internal Affairs (NZ), 'Programmes and Initiatives: Birth of a Child Life Event', April 2016.
590 New Zealand Government, 'Govt.nz: About us', 17 June 2016.
591 New Zealand Government, 'Analytics for Govt.nz', as at 12 September 2016.
592 ibid.

- Chrome is the most common browser through which people accesses Govt.nz.

8.33 It is important to note that customers are unable to transact directly on the Govt.nz website. Instead, the site directs users to the necessary website where they are able to transact provided they have the necessary 'RealMe' account.

Finding 63

Govt.nz is a customer-centric online one-stop shop for New Zealand Government information services that was launched in July 2014. Currently, the Govt.nz website receives an average of 11,400 visits per day.

Electronic Identification – RealMe

8.34 Launched in 2013, RealMe is a collaboration between the Department of Internal Affairs and New Zealand Post to:

…provide the easiest and most secure way for users to manage their identities online …. [and] be at the centre of online identity for New Zealand, in both public and private sectors'.[593]

8.35 Established as part of the Better Public Service Result 10 (see 2.17 above) RealMe is comprised of two components, RealMe login and RealMe verified.[594]

8.36 A RealMe login is used to access a range of New Zealand public and private services. Similar to Australia's myGov, customers create an account with a simple login for access to multiple services.[595] A RealMe verified account is the next step in the process. It enables customers to prove who they are when transacting online by establishing a verified identity that is valid for five years.[596]

8.37 Once established a RealMe verified identity allows a customer to transact with a growing number of organisations. For example, a person with a verified RealMe identity can order birth, death or marriage certificates, enrol to vote in an election, apply for a student loan, apply for their first passport and much more.[597]

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593 Department of Internal Affairs (NZ), 'RealMe – About Us', 2016.
594 Mr Karl McDiarmid, General Manager Service Innovation, Service Delivery and Operations, Department of Internal Affairs (NZ), Briefing, 10 March 2016.
595 Department of Internal Affairs (NZ), 'RealMe – What it is', 2016.
596 ibid.
597 Department of Internal Affairs (NZ), 'RealMe – Where to use RealMe', 2016.

8.38   Both the RealMe login and RealMe verified identity services are now mandated for 'all eligible government agencies'.[598] However, this mandate appears to be applicable to these agencies once they decide to transition out of their legacy systems.

8.39   The upfront capital expenditure for the RealMe initiative was approximately $149 million, with an ongoing operational expenditure of $2 to $3 million per year[599] and since its launch the uptake of services has been positive:[600]

- 82 services across 32 organisations are using RealMe as their login.

- 2.8 million RealMe login accounts have been created.

- Nine organisations (public and private) are using the RealMe verified account service.

- Over 198,000 verified identities have been established.

- 51.2 million transactions have been completed.

- Over 53 per cent of transactions with government are completed online.

8.40   A good example of the benefits of RealMe for citizens is the fact that New Zealanders can now renew their passport online with a simple RealMe login. This has seen a reduction in transaction costs which has generated a total savings of $7 million for citizens.[601]

8.41   While the New Zealand Government is on track to meet its strategic target of having 70 per cent of all customer services transactions completed digitally by November 2017 (see 2.18 above), there are still numerous life event areas where government services need to be simplified via their incorporation into the Govt.nz/RealMe framework.[602]

8.42   By way of example, feedback from customers indicates that, following the birth of a child, parents and caregivers struggle to access the services and information they need due to the large number of agencies (seven to 15) they may be

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598 Department of Internal Affairs (NZ), 'Products and Services: RealMe Login Service' and 'Products and Services RealMe Verified Account Service', no date.

599 Mr Karl McDiarmid, General Manager Service Innovation, Service Delivery and Operations, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

600 Department of Internal Affairs (NZ), 'RealMe – About Us', as at 11 September 2016.

601 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p. 11. NOTE: This figure relates only to passport renewal and does not reflect any savings attributed to passport applications using a verified RealMe account.

602 Mr Karl McDiarmid, General Manager Service Innovation, Service Delivery and Operations, Department of Internal Affairs (NZ), Briefing, 10 March 2016.

required to navigate.[603] Unfortunately, establishing a single point contact for these life events remains a challenge for the NZGCIO team.[604]

8.43 At a briefing with the New Zealand Department of Internal Affairs, the Committee was informed of a proposed new model that is designed to shift the focus from providing individual transactions to developing integrated service delivery to improve the customer's experience by creating a single point of contact.[605] This new model will create an 'ecosystem' allowing customers the 'interact through their channel of choice and not have to worry about the inner workings of government'.[606]

Finding 64

The New Zealand Government launched an initiative called RealMe in 2013 to facilitate greater online capability for consumers of government services.

So far, 2.7 million RealMe login accounts have been created and over 186,000 RealMe verified identities have been established.

Finding 65

The New Zealand Government is on track to meet its target of having 70 per cent of all customer service transactions completed digitally by November 2017.

New South Wales

One-stop shop – Service NSW

8.44 Prior to the introduction of its one-stop shop, Service NSW, NSW Government customers 'had to navigate through more than 100 call centres, 380 different shop fronts, 1,000 websites and 8,000 different customer services numbers'.[607]

8.45 Acknowledging the complexity of these services, the developers of Service NSW sought firstly to identify the most significant interactive moments between citizens and government. From this information, they designed an interface

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603 Department of Internal Affairs (NZ), 'Programmes and Initiatives: Birth of a Child Life Event', April 2016.
604 Mr Duncan Reed, General Manager, System Transformation, and Mr Chris Webb, General Manager, Commercial Strategy and Delivery Department of Internal Affairs (NZ), Briefing, 10 March 2016.
605 Mr Karl McDiarmid, General Manager Service Innovation, Service Delivery and Operations, Department of Internal Affairs (NZ), Briefing, 10 March 2016.
606 Department of Internal Affairs (NZ), 'Programmes and Initiatives: Birth of a Child Life Event', April 2016.
607 Department of Finance, Services and Innovation (NSW), *Digital+ 2016, NSW Government ICT Strategy Final Update*, 2015, p. 6.

model that would improve the customer experience, before progressively solving for the backend infrastructure requirements.[608]

8.46   Launched in July 2013, Service NSW offers customers a one-stop shop experience by delivering 'more than 800 transactions…through one digital service, one phone number and a network of [physical] one-stop shops.'[609]

8.47   Service NSW has adopted what Dr Rachna Gandhi, the CEO of Service NSW, calls an 'omni-channel' approach, meaning customers can choose how they access the full suite of government services available, either by phone, mail, online or in a service centre.[610]

8.48   Service NSW has been built in a way that is scalable and can be expanded to meet customer demand. When it was first launched Service NSW had fifty staff members, there was one service centre, one contact centre, and the website received a maximum of 5,000 page views per week. By early 2016 there were 1650 staff members, 52 service centres (with another 28 planned), and the website was receiving over 500,000 page views per week.[611]

8.49   Building on this success the NSW Government has recently developed a payments services platform that will, over time, 'reduce duplicate payments infrastructure and streamline payment processes' for Service NSW agencies and customers.[612] Service NSW is developing this platform using ICT infrastructure acquired through an as-a-service product offering.[613]

8.50   While Service NSW continues to provide more online transactions to keep pace with growing customer demand, its true value will not be realised until more agencies are 'on-boarded'.[614]

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608 Dr Rachna Gandhi, Chief Executive Officer, Service NSW, Department of Finance, Services and Innovation, Briefing, 9 March 2016.

609 Service NSW, 'About Us', no date.

610 Dr Rachna Gandhi, Chief Executive Officer, Service NSW, Department of Finance, Services and Innovation, Briefing, 9 March 2016.

611 ibid.

612 Department of Finance, Services and Innovation (NSW), *Digital+ 2016, NSW Government ICT Strategy Final Update*, 2015, p. 6.

613 ibid.

614 Dr Rachna Gandhi, Chief Executive Officer, Service NSW, Department of Finance, Services and Innovation, Briefing, 9 March 2016.

Finding 66

Service NSW was launched in July 2013 and offers customers a one-stop shop experience by delivering more than 800 transactions through one digital service, one phone number and a network of at least 52 physical customer service centres.

Finding 67

Service NSW has taken what it calls an 'omni-channel' approach to customer service delivery and has been built in a way that is scalable to reflect customer demand.

Electronic identification – MyService NSW

8.51   In February 2016 the NSW Government single identity online account facility, MyService NSW, went live.[615]

8.52   Now Service NSW customers are able to create a digital identity for easier access to services across NSW Government agencies. A MyService NSW account is a digital profile that allows customers to securely store personal information to enable ease of access to NSW government services and verify their identity online.[616]

8.53   At the time of the launch, services available on MyService NSW included 'licence information, vehicle registrations, demerit points and fine payments.'[617] It is expected that more services will be made available going forward.

8.54   There are different levels of online identification available with a MyService NSW account. As the Committee understands it, at the lowest level customers are able to set up an account by providing their name, but they are unable to transact at this level. At the next level customers can open an account using their name and a form of identification that can be verified against an existing government account (e.g. providing their address which can be verified against their driver's licence). At the final level, customers fulfil the requirements of the first two levels but then attend a service centre in person and complete a 100 point identification check. Once the highest level of verified identity is established a customer will be able to access any product and complete all transactions (as they become available) through the one-stop shop.[618]

615 Rohan Pearce, 'NSW launches MyService NSW', *Computerworld*, 4 February 2016.
616 Service NSW, *Register a MyServiceNSW Account*, no date.
617 New South Wales Government, *MyService NSW: an online account to manage NSW government services*, Media Statement, NSW, 10 February 2016.
618 Dr Rachna Gandhi, Chief Executive Officer, Service NSW, Department of Finance, Services and Innovation, Briefing, 9 March 2016.

Finding 68

In February 2016 the NSW Government single identity online account facility, MyService NSW, went live. My Service NSW customers are now able to create a digital identity for easier access to services across NSW Government agencies through a single point. The scope of transactions that can be performed through a My Service NSW account will vary depending upon the level of identity each customer wishes to provide.

Other notable developments within Australia

8.55   The Commonwealth Government's myGov initiative is 'a user interface which lays the foundation for a single login to all government services'.[619] At present users are able to access Medicare, the Australian Taxation Office (ATO), Centrelink and Child Support services with just a username and password.[620] The Hon. Malcolm Turnbull, as Communications Minister, offered the MyGov infrastructure to all government agencies—federal, state and local—free of charge.[621]

8.56   Some states have been reluctant to take-up this offer, with the WAGCIO advising the Committee that there has been 'quite a significant backlash in terms of its usability.[622] However, according to Mr Paul Wilkins, General Manager Innovation and Strategy with Ajilon, the difficulties experienced with myGov are more to do with the implementation as 'there is nothing wrong with the architecture'.[623]

8.57   The Committee notes that responsibility for myGov has been recently transferred to the Australian Government DTO.[624] According to a Prime Ministerial press release, the Coalition Government has committed to providing $50.5 million to 'modernise myGov'.[625]

8.58   In addition to myGov, the Committee noted the Australian Government has two other websites that act as one-stop shops – Australia.gov.au and gov.au. The DTO is responsible for managing both sites.

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619 Tom Burton, 'Turnbull's digital free-for-all: states can join myGov for nothing', *The Mandarin*, 13 February 2015.

620 Submission No. 4 from Ajilon Australia Pty Ltd, 10 September 2015, p. 16.

621 Tom Burton, 'Turnbull's digital free-for-all: states can join myGov for nothing', *The Mandarin,* 13 February 2015.

622 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 March 2016, p. 14.

623 Mr Paul Wilkins, General Manager, Innovation and Strategy, Ajilon Australia Pty Ltd, *Transcript of Evidence*, 11 May 2016, p. 10.

624 Noel Towel, 'Troubled myGov website to be taken from Human Services and given to Digital Transformation Office for streamlining', *The Canberra Times,* 28 January 2016.

625 Hon Malcolm Turnbull, (Prime Minister of Australia), *Better and more accessible digital services*, Media Statement, The Liberal Party, Australia, 16 June 2016.

8.59   The first site, Australia.gov.au, is a one-stop shop information gateway that links 'information and services on around 900 Australian government websites as well as selected state and territory resources'.[626]

8.60   At present Gov.au simply provides the links to the website entry points for each level of government.[627] However, the Committee understands that once Gov.au is completed, it 'will join up services provided by different agencies and tiers of government, so people can get things done with government in a single journey'.[628] The Gov.au alpha prototype was made public in April 2016 with the beta expected later this year. At this stage it is not clear when the site will be finalised.[629]

8.61   Elsewhere, the Queensland Government began implementing its customer-focused one-stop shop approach in 2014 with a goal of making it 'simpler and easier' for customers to access the information and services they need.[630] The first step was to boost online transactional capability and in the first two years 340 online transactions have been added to the initial 40 that were available.[631]

8.62   According to Ms Fiona Armstrong, General Manager of the One-Stop Shop Strategy and Implementation Office, the take up of these services has been automatic with a 40 per cent shift to online transactions in the first few months. However, Ms Armstrong added that this process has not just been about 'shifting the traditional services' online, but about 're-imagining how the services might be delivered digitally'.[632]

8.63   To achieve this, the Queensland Government has been working closely with local communities to develop six different service delivery models that are currently being trialled in various locations across two regions, Lockyer Valley and Scenic Rim.[633] These initiatives include self-service digital kiosks that allow online access to a range of government services and physical one-stop-shops that offer face-to-face and self-service channels.[634]

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626 Australian Government, 'About Australia.gov.au', no date.

627 Australian Government, 'www.gov.au - A listing of websites for governments in Australia', no date.

628 Australian Government Digital Transformation Office, 'Gov.au', no date.

629 ibid.

630 Queensland Government, 'About the One-stop shop', 29 March 2016.

631 Ms Fiona Armstrong, General Manager One-Stop Shop Strategy and Implementation Office, Department of Science, Information, Technology and Innovation (QLD), Briefing, 7 March 2016.

632 ibid.

633 ibid.

634 Queensland Government, 'Scenic Rim and Lockyer Valley pilot', 14 July 2016.

Current status in WA

8.64 Currently there are several agencies in WA that have adopted and are implementing a customer-centric approach to service delivery. These include the Department of Transport and the Department of Mines and Petroleum.

Department of Transport

8.65 Over the past five years the Department of Transport (DoT) has undergone a significant transformation with a strong focus on improving customer service.[635] During this time the Department responded to consumer demand for online services and introduced several online transactions. These online transactions have allowed customers to complete simple tasks online while freeing up DoT service centres to assist customers with more complex transactions.[636]

8.66 While the focus of DoT's transformation is to improve the customers' experience, it has also produced significant financial savings.   The Department confirmed that since 2013, it has saved between '$70 million and $80 million in relation to transaction processing costs', by transitioning to online services.[637] The Committee notes these savings are more about future costs avoided rather than actual savings, as DoT is now able to process higher volumes of transactions without the need for extra resources. Savings also accrue to customers by way of time and costs saved from not having to attend a DoT licensing centre.

8.67 The Department has a range of services available to customers on its website, but in 2013 DoTDirect was launched as a specific service where customers can create a personalised account that stores their personal and vehicle licence details. DoTDirect allows customers to pay accounts, change address, check demerit points, and conduct other online transactions.[638]

8.68 There are more than 112,000 Transport customers registered with DoTDirect[639], which makes up only seven per cent of the Department's total transactions. All up, DoT customers now complete a total of 58 per cent of transactions online.

635 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 2.

636 Ms Nina Lyhne, Managing Director, Transport and Vehicle Services, Department of Transport, *Transcript of Evidence*, 23 March 2016, p.3.

637 Mrs Ann King, General Manager, Driver and Vehicle Services, Department of Transport, *Transcript of Evidence*, 23 March 2016, p.2.

638 Mr Reece Waldock, Director General, Department of Transport, *Transcript of Evidence*, 23 March 2016, p. 4.

639 Hon Dean Nalder MLA, Minister for Transport, *Skippers save time going online*, Media Statement, 29 February 2016.

The Department advised that is still working to expand the use of DoTDirect and believes it could be extended out for whole-of-government usage.[640]

Department of Mines and Petroleum

8.69   The Department of Mines and Petroleum (DMP), while not strictly offering a one-stop shop approach, nonetheless provides an example of a WA Government agency that is successfully offering online services to its customers and collaborating with other agencies in a meaningful and beneficial way.

8.70   At a public hearing with DMP in April 2016, the Committee was advised that 50 per cent of the Department's annual 190,000 transactions were conducted online through its suite of services known as Digital DMP. Dr Timothy Griffin, Acting Director General, estimated that 90 per cent of all DMP transactions would be conducted online by June 2016.[641] These online transactions will cover 75 per cent of DMP's various transaction types.

8.71   The transition to Digital DMP has occurred over a ten-year period. It was born out of necessity due to the high staff turnover, increased workload and mining approval timelines that emerged during the mining boom.[642] Notably, DMP has confirmed that its suite of online offerings have enabled it to meet the substantial increase in demand for its services, and reduce its transaction processing times without incurring 'a significant increase in DMP's total budget.'[643]

8.72   In developing its online systems DMP liaised closely with Landgate to build on that agency's experiences and ensure compatibility and transferability of data between relevant agencies. DMP data is also compatible with the Department of Water's hydrogeology database and it is 'working with Aboriginal Affairs, Lands and the Environmental Protection Authority to make sure they have got the same sort of systems in place.'[644]

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640 Mr Reece Waldock, Director General, Department of Transport, *Transcript of Evidence*, 23 March 2016, p. 5.

641 Dr Timothy Griffin, Acting Director General, Department of Mines and Petroleum, *Transcript of Evidence*, 6 April 2016, p. 2.

642 Mr Mietek Banaszczyk, Executive Director, Corporate Support, Department of Mines and Petroleum, *Transcript of Evidence*, 6 April 2016, p. 3.

643 Dr Timothy Griffin, Acting Director General, Department of Mines and Petroleum, *Transcript of Evidence*, 6 April 2016, p. 2.

644 ibid, p. 5.

The broader Western Australian public sector

One-stop-shop

8.73   Notwithstanding the initiatives undertaken by agencies such as DMP and DoT, the customer-centric approach to service delivery is still lacking at a whole-of-government level in WA. The WAGCIO has confirmed that there are currently an estimated 450 WA government websites despite there being only 140 entities across the public sector. While there is a whole-of-government information portal in operation—WA.gov.au—the WA Government Chief Information Officer, Mr Giles Nunis, has rightly described this site as 'a mix of different things but primarily static information which does not add much value'.[645] The current lack of interagency collaboration and level of complexity around accessing information is not conducive to a positive customer experience or effective delivery of one-stop government services.

8.74   *Digital* WA is looking to address these issues. In the introduction to the Strategy, Mr Nunis, states:

> *Government services will increasingly become digital, delivered online and conveniently accessible through a single whole-of-government portal. Interoperable systems and networks will allow seamless connectivity and service delivery between agencies.*[646]

8.75   Like cloud computing, the development of a single government portal, or one-stop shop, is necessary for the government to achieve the strategic goals at the core of *Digital* WA's mantra – Simplify, Connect, Inform.[647]

8.76   The development of a Digital Services Portal is one of the implementation initiatives included under *Digital* WA's fifth Roadmap Theme: Online Self-Service. When completed, this suite of initiatives will provide:

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645 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 May 2016, p. 11.

646 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 8.

647 ibid.

> *…a single point to find government digital services, and make them easier to use. Payments to any agency for any transaction will be possible through a single gateway, and connected systems in the background will enable people to provide information once, and have it acted on by multiple agencies.*[648]

8.77   In addition to the improved service delivery that a single payment gateway will facilitate, the Government can also expect to save money through a substantial reduction in duplicated services. Mr Nunis has stressed the importance of the single gateway 'because having multiple payment gateways is quite a significant cost.[649]

8.78   According to *Digital* WA, the pilot of the initial Digital Services Portal is hoped to be in place by the end of 2016, and the capacity for payments should be in development by the end of 2017. It is currently hoped that a full personalised portal will be completed by the end of 2019.[650] When appearing before the Committee, Mr Nunis indicated that WA is 'significantly down the path towards the creation of a single government portal'.[651]

8.79   As part of this process the WAGCIO is looking to replace and eventually consolidate the existing 450 agency websites into one. Not only will this assist the establishment of a single digital portal, it will also provide significant savings as the government currently spends 'in excess of $25 million a year maintaining [all of the] websites'.[652]

8.80   Importantly, thought is being given as to how back-end processes can be fixed so that WA can offer streamlined government services based around "life events", similar to the initiatives being adopted in other jurisdictions. In this respect, the Department of Local Government and Communities is working with the WAGCIO and other relevant agencies to try to streamline the process for senior citizens to

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648 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 35. For more information of the *Digital* WA Roadmap Themes see the section starting at 3.46 above.

649 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, p. 5.

650 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 35.

651 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence,* 18 May 2016, p. 11.

652 ibid., p. 12.

receive their Seniors Card and automatically receive rebates or discounts available to them from other government agencies.[653]

8.81   During the transition to online government service delivery the WAGCIO is also looking to gain insight and even build on the work done by agencies that already have a mature online presence.

Finding 69

While some Western Australian agencies have adopted and are implementing a customer-centric approach to service delivery, this approach is generally lacking across the sector.

Finding 70

The WAGCIO has confirmed there are 450 Western Australian Government websites despite there being only 140 entities across the public sector. Collectively, agencies currently spend $25 million dollars a year maintaining these websites.

Finding 71

While the Government operates a whole-of-government portal, WA.GOV.AU, this site appears to be underutilised. The WAGCIO has rightly described this site as a 'mix of different things but primarily static information which does not add much value.'

Finding 72

The WAGCIO has plans to establish a Digital Service Portal that will include a single point to find government digital services; a single payment gateway; connected systems to allow for multiple agency information exchange; and personalised profiles for individual users.

Development of the initial portal should be completed by the end of 2016 with the full Digital Services Portal expected to be finalised by the end of 2019.

Electronic identity

8.82   Success of the Digital Services Portal will be dependent on the development of a digital identity platform.

8.83   Notably, the creation of such a platform is included among the implementation initiatives linked to Digital WA's sixth Roadmap Theme 6: Digital Security.[654] The platform will be designed to allow businesses and community members to create digital identities from which they can 'access government services safely

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653 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 35.

654 ibid.

and securely.'[655] Once established, it is also intended to 'facilitate online transactions through electronic signatures.[656]

8.84   In its submission to the Committee, the WAGCIO, claimed that 'identity management, or the electronic means by which citizens' identities are verified, represents a critical step in the move to online government service delivery'.[657] The pilot for the Digital Identity Platform is expected to have commenced by the end of 2017.

8.85   The infrastructure that will be used to build the Digital Identity Platform is yet to be confirmed. While Mr Nunis has not formally rejected Canberra's free offer of the myGov architecture for developing digital identifications in WA, he has indicated he 'do[es] not particularly like the way in which myGov is structured at the moment.'[658] However, he has indicated he will 'maintain communications' with the DTO to 'maximize reuse' of the myGov structure, depending on the outcome of the DTO's attempts to 'rebuild it properly'.[659]

8.86   In the meantime his office has been liaising with the Department of Transport regarding the use of driver's licenses as single portal electronic identification 'because that is a government asset we have created and used'.[660]

Finding 73

The WAGCIO has confirmed plans to establish a Digital Identity Platform. The Platform will be designed to allow businesses and community members to create digital identities from which they can access government services safely and securely.

The pilot for the initial Digital Identity Platform is expected to have commenced by the end of 2017.

Committee's View

8.87   The Committee acknowledges the Department of Transport and the Department of Mines and Petroleum for their efforts in taking a customer-centric approach to service delivery. The Committee also supports the initiatives being taken by

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655 Office of the Government Chief Information Officer (WA), _Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020_, 26 May 2016, p. 35.

656 ibid.

657 Submission No. 12 from the Office of the Government Chief Information Officer (WA), 11 September 2015, p.10.

658 Mr Giles Nunis, Government Chief Information Officer (WA), _Transcript of Evidence,_ 18 May 2016, p. 14

659 ibid.

660 ibid.

the WAGCIO to facilitate a more customer-centric approach at a whole-of-government level.

8.88 While noting that these initiatives are all in their early stages of development, the Committee wishes to offer comment in four areas: omni-channel availability; the Digital Services Platform; streamlined services around life-events; and the Digital Identity Platform.

Omni-channel availability

8.89 It is clear that more and more customers are looking to interact with governments online and the Committee cannot dispute the significant financial benefits that might accrue from digitising more government services. However, the Committee also recognises that the more traditional channels for customer transactions (services centres, telephone and mail) will continue to play a role. In this respect, the Committee sees merit in the Service NSW omni-channel approach to one-stop shop government service delivery that provides customers with a choice of how to interact with governments.

8.90 When asked what contingences the WAGCIO is contemplating to accommodate those who do not wish to transact online Mr Nunis said 'I think it is highly unlikely that we will create counters to get people online, but we will look at some way to introduce senior members of our community to coming online'.[661]

8.91 The Committee accepts that it is important for the WAGCIO to focus on developing digital channels. However, it is equally important that any strategic planning in this area takes into account the need to ensure that quality traditional transaction channels remain available for citizens who do not want to deal with government online.

8.92 The Committee is concerned the WAGCIO is focusing almost exclusively on digitising citizens rather than providing citizens with a choice for how they would like to interact with government.

Finding 74

The WAGCIO has not committed to establishing multiple channels through which customers can interact with Government; rather it plans to look at ways to help citizens transition to the digital environment.

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661 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence,* 18 May 2016, p. 13.

Recommendation 15

The WAGCIO conduct an investigation into the viability of an omni-channel one-stop-shop approach to service delivery, similar to that in operation through Service NSW.

Digital Services Portal

8.93   The Committee agrees that the true value of a one-stop shop can only be fully realised once all agencies are on-board and customers can be identified and transact through a single interface. However, the Committee has obtained evidence from other jurisdictions that highlights reluctance from some agencies to transition to a citizen-centric one-stop shop model.

8.94   To address this issue the New Zealand Government has mandated both its RealMe services for eligible government agencies.

8.95   The Committee sees merit in a "by default" approach. With a default approach agencies can still opt out, but it puts the onus on them to justify why they should be exempted.

Recommendation 16

The WAGCIO examine the benefits of mandating the Digital Services Portal for all agencies leaving an option to apply for an exemption.

Streamlined Services around 'Life Events'

8.96   The Committee sees benefit in the cross-government "tell-us-once" approach to delivering customer services based around significant life events (e.g. the birth of a child, turning 65, etc.).

8.97   Acknowledging the challenges experienced in other jurisdictions that are contemplating this approach, the Committee commends the work being done in WA to streamline the process for citizens becoming 'seniors' (see 8.80 above).

Digital Identification Platform

8.98   The Committee understands that digital identification is critical to a successful one-stop shop approach and understands the WAGCIO's hesitation with adopting the current myGov infrastructure. The Committee also understands the WAGCIO's justification for working with the Department of Transport in the digital identification space.

8.99   Drivers' licences are a significant form of citizen identification that the WA Government already has as an asset. While the Committee sees worth in the continued collaboration between the WAGCIO and the Department of Transport in developing a digital identity platform for licensing, it nonetheless urges the

WAGCIO to maintain contact with the Digital Transformation Office as the latter redevelops the myGov infrastructure.

Recommendation 17

The WAGCIO maintain open lines of communication with the Australian Government Digital Transformation Office regarding developments with the myGov infrastructure and the potential for its application in Western Australia.

Chapter 9

Innovative Solutions: Open Data

What is open data?

9.1 The Western Australian Office of the Government Chief Information Officer (WAGCIO) has advised that '[o]pening access to public sector data, together with approaches to removing restrictions surrounding its use, is a growing trend [among governments] nationally and internationally.'[662]

9.2 Two types of data are discussed in the open data space: raw data and value-added data.

9.3 **Raw data**, also referred to as basic data, is pre-interpreted data usually collected through a government's normal operations or business.[663]

9.4 **Value-added data** is just that, data that has 'some value-add component' involving data analysis and 'manipulation'.[664]

9.5 Evidence suggests that open data provides the greatest potential benefit when it is published as raw data. According to a report by the Australian Government's Bureau of Communications published in February 2016, raw data 'is likely to exhibit the strongest public good characteristics' and 'net public benefits will be greater if significant value adding is left to the market'.[665]

Finding 75

The WAGCIO has advised that the opening of access to public sector data, together with approaches to removing restrictions surrounding its use, is a growing trend among governments nationally and internationally. This phenomenon is commonly referred to as open data.

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662 Government of Western Australia, _Whole of Government Open Data Policy_, Department of Premier and Cabinet, WA, April 2015, p.2.

663 ibid., p. 8; Department of Communications and the Arts, Bureau of Communications Research (CWTH), _Open government data and why it matters_, February 2016.

664 Department of Communications and the Arts, Bureau of Communications Research (CWTH), _Open government data and why it matters_, February 2016.

665 ibid.

Finding 76

Evidence suggests that open data provides the greatest potential benefit when it is published in raw form. Raw data is pre-interpreted data that has not undergone any form of manipulation.

9.6   Many jurisdictions including the United Kingdom, New Zealand, NSW, Queensland and WA are using CKAN, an open-source data portal platform, to publish their data. CKAN is a 'complete out-of-the-box' solution for governments and other data publishers that provides the 'tools to streamline publishing, sharing, finding and using data'.[666]

9.7   As governments around the world recognise the need to make data more accessible, policies are being developed to guide the transition to an open data environment. Having examined a sample of these open data polices, the Committee has discovered that while approaches vary between jurisdictions, there are several common principles which are applied to define open data. These common principles indicate that open data should be:[667]

- made open by default, but protected where necessary

- easily discoverable and useable

- up-to-date and raw

- trusted and authoritative

- available for free

- subject to public input

- modifiable and machine-readable

Finding 77

The Committee identified the following principles to be common among the government open data policies it has examined: data should be open by default, but protected where necessary; easily discoverable and useable; up-to-date and raw; trusted and authoritative; available for free; subject to public input; and modifiable and machine-readable.

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666 CKAN, 'About', no date.
667 Office of the Government Chief Information Officer (WA), *Whole of Government Open Data Policy*, April 2015; Australian Government, 'Open data toolkit – Policy*',
     1 August 2016*; Department of Finance, Services and Innovation (NSW), *Open Data Policy,* 2016; Government Digital Service (UK), 'Gov.UK: Government Service Design Manual - Open Data', no date.

Perceived benefits of open data

9.8   According to a 2014 report for The World Bank, governments are launching open data programs with four key objectives in mind: Economic growth; more inclusive citizen engagement; increased transparency and accountability; and improved efficiency and operations of public services.[668] There is strong support for this claim within the evidence gathered by the Committee.

Economic growth

9.9   A key benefit of open data is that it enables governments to leverage off the 'wisdom of third parties'.[669] This can lead to economic growth through the development of innovative solutions to problematic policy dilemmas and customised products that can benefit businesses, the community and/or other government agencies.[670]

9.10   Open data can also encourage entrepreneurship, which can lead to the development of new businesses and industries, ultimately creating more jobs for the economy.[671]

9.11   Governments can encourage further economic growth by hosting initiatives that promote crowd-sourcing ideas and reward innovation driven by open data[672] (see paragraphs below on GovHack starting at 9.27).

Inclusive citizen engagement

9.12   By providing public access to open data, governments are able to 'build trust and improve [their] reputation and moral standing' among citizens.[673] The World Bank has argued this will result in citizens becoming more engaged and 'more informed consumers of public services'.[674]

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668 The World Bank, *Open Data for Economic Growth*, report prepared by Andrew Stott, The World Bank, 25 June 2014, p.4.
669 Deloitte Access Economics, *Digital government transformation*, Sydney, NSW, 2015, p. 19.
670 Department of Communications and the Arts, Bureau of Communications Research (CWTH), *Open government data and why it matters*, February 2016, no page.
671 Government of Western Australia, *Whole of Government Open Data Policy*, Department of Premier and Cabinet, WA, April 2015, p. 2.
672 Department of Communications and the Arts, Bureau of Communications Research (CWTH), *Open government data and why it matters*, February 2016.
673 Deloitte *Open Data Driving growth, ingenuity and innovation,* London, UK, 2012.
674 The World Bank, *Open Data for Economic Growth*, report prepared by Andrew Stott, The World Bank, 25 June 2014, p.4.

Chapter 9

Increased transparency and accountability

9.13   Open data promotes government transparency and accountability by 'providing greater visibility around government activities and expenditure'.[675] Such transparency may lead to a reduction in the number of Freedom of Information applications, thereby reducing the costs associated with processing these requests.[676]

Improved efficiency and operations of public services

9.14   According to the New South Wales ICT Strategy, 'data is the foundation of evidenced-based policy'.[677] The Queensland Government CIO, Mr Andrew Mills, made a similar claim when he said 'open data enables better data-driven public policy outcomes'.[678]

9.15   Access to open data can assist 'knowledge-sharing' among government agencies, which can lead to more streamlined processes and a reduction in the 'duplication of work'.[679] It can also facilitate more strategic cross-agency collaboration. This collaboration, coupled with the ability to make evidence-based policy decisions, should improve both the efficiency and operations of the public service.[680]

9.16   There have also been estimates made as to the quantitative benefits of open data. A recent McKinsey study—cited in a 2016 report by the Australian Government's Bureau of Communications Research—estimates the potential combined economic value of both public and private open data could be as much as $4 trillion per annum globally.[681]

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675   Government of Western Australia, *Whole of Government Open Data Policy*, Department of Premier and Cabinet, WA, April 2015, p. 3.

676   The World Bank, *Open Data for Economic Growth*, report prepared by Andrew Stott, The World Bank, 25 June 2014, p.4.

677   Department of Finance and Innovation (NSW), *Digital+ 2016, NSW Government ICT Strategy Final Update*, 2015, p. 9.

678   Mr Andrew Mills, Queensland Government Chief Information Officer, Briefing, 7 March 2016.

679   Western Australian Whole of Government Open Data Policy, '*Fact Sheet – Open data: where's the benefit?'*, report prepared by Landgate, WA, p. 1.

680   Government of Western Australia, *Whole of Government Open Data Policy*, Department of Premier and Cabinet, WA, April 2015, p. 2.

681   Department of Communications and the Arts, Bureau of Communications Research (CWTH), *Open government data and why it matters*, February 2016, no page. Note: The currency was not provided.

9.17   Another report, published in 2014, estimates that the 'aggregate direct and indirect value of government data in Australia' could be as high as AUD$25 billion per annum.[682]

Finding 78

Open data is seen to offer numerous benefits including improved efficiency and operations of public services through the development of data-driven, evidenced-based policy solutions.

Perceived risks and challenges of open data

9.18   As with most innovative solutions for the delivery of government services, open data has its challenges. As indicated at paragraph 9.5 above, raw data provides the best potential benefits. However, some concerns with raw data have been raised. For example, some evidence suggests that agencies may be concerned that the raw data they collect is 'not good enough' to publish.[683]

9.19   Another concern with publishing raw data is the 'law of unintended consequences', meaning open data could be used by some to 'single out more vulnerable communities or individuals for exploitation'.[684]

9.20   Some concern has also been expressed that, in an environment of headlines and sound bites, open data may be misinterpreted to support inaccurate claims which could have dangerous consequences.[685]

9.21   Before governments publish data there are legal, security and privacy issues that must be considered, as they can impact the extent to which certain data types can be released.[686] Many government open data policies have addressed this issue by requiring that data be protected where necessary and by providing further guidance to agencies on the matter. Unfortunately there are still concerns around the security of an individual's identity. This concern relates to something called the 'mosaic effect' meaning that an individual's identity can be determined by 'putting together data from different sources'.[687]

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682 Omidyar Network, *Open for Business: How open data can help achieve the G20 growth target*, report prepared by Lateral Economics, June 2014, p. 32.

683 Mr William Murphy, Deputy Secretary, Services and Digital Innovation, Department of Finance, Services and Innovation (NSW), Briefing, 9 March 2016.

684 Deloitte *Open Data Driving growth, ingenuity and innovation,* London, UK, 2012, p. 29.

685 Stephen Easton, 'Big data overload: keep analytics focused on business needs', *The Mandarin*, 22 July 2016.

686 Department of Communications and the Arts, Bureau of Communications Research (CWTH), *Open government data and why it matters*, February 2016, no page.

687 Deloitte *Open Data Driving growth, ingenuity and innovation,* London, UK, 2012, p. 27.

Other jurisdictions

9.22   The Committee has observed a growing trend in the number of governments adopting open data policies or strategies, and has noted some of the benefits nearby jurisdictions have realised from this approach. The Committee decided to focus its inter-jurisdictional research efforts on how the Australian, Queensland, New South Wales and New Zealand governments have approached open data as a means to improve the efficiency and effectiveness of government service delivery.

Australian Government

Open Data Policy

9.23   In December 2015 the Australian Government announced the Public Data Policy Statement[688] as part of its broader National Innovation and Science Agenda which included a commitment to make 'non-sensitive data' available:

> *…by default, in machine readable and anonymised forms through data.gov.au so that the private sector can use and reuse it to create new and innovative products and business models.*[689]

9.24   The Public Data Policy Statement does not include much detail for government entities, but the Australian Government hosts a Wikipedia-style open data toolkit to help agencies and the public understand open data in Australia.[690]

Open Data Portal

9.25   The Australian Government open data portal, data.gov.au, was created in 2010 and has over 9,900 discoverable datasets currently available.[691]

9.26   As with most open data portals, the datasets uploaded onto data.gov.au have been created and are maintained by individual agencies. Consequently, the 'quality or timeliness [of the data] cannot be guaranteed' by data.gov.au.[692]

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688 Australian Government, 'Australian Government Public Data Policy Statement', 7 December 2015, no page.

689 Australian Government, *National Innovation & Science Agenda*, 2015, p. 15.

690 Australian Government, 'Open Data Toolkit - Main page', 22 January 2015, no page.

691 Australian Government, 'data.gov.au', no date*,* and Department of Finance (CWTH), 'Declaration of Open Government', no date. Note: dataset is defined as 'a collection of related, discrete items of related data that may be accessed individually or in combination or managed as a whole entity.' From TechTarget, 'WhatIs.com – Data set', 1999-2016, no page.

Using Open Data

9.27   GovHack is an Australian initiative that started in 2009 as a 'small data mash-up event' funded by the Australian Government.[693] It has now evolved into an international competition that brings close to 2,000 people together to 'innovate, collaborate and apply their creative skills to open government data'.[694]

9.28   GovHack hosts an annual 46-hour 'hackathon' where teams of competitors 'use open data to build apps, visualisations, websites, and other cool solutions'.[695] The most recent annual hackathon was held during the last weekend of July 2016 and included 437 registered projects in eight regions.[696]

9.29   GovHack also hosts smaller themed events that focus on specific issues, an example of which is the recent 'games for disability' event held in New South Wales.[697]

9.30   In addition to the national GovHack events, each Australian State and Territory runs its own GovHack events.[698] New Zealand, which joined the main event in 2015, started running its own GovHack events that same year.[699]

Queensland

Open Data Policy

9.31   In 2012 the Queensland Premier announced an 'open data revolution', the objective being to release as much government data as possible to 'encourage the private sector to develop innovative new services and solutions to Queenslanders' problems'.[700]

9.32   The *Queensland Government ICT Strategy* 2013-17, released the following year, included open data as a focus area with the aim of ensuring 'data is easily accessible, visible and available for reuse by the public, business, researchers and individuals.[701]

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692   Australian Government, 'data.gov.au – About', no date.

693   GovHack, 'About GovHack', no date

694   ibid.

695   ibid.

696   GovHack, 'GovHack 2016 Projects', no date.

697   GovHack, 'Types of events', no date.

698   GovHack, 'GovHack', no date.

699   GovHack NZ, 'History', 2015, no date.

700   Hon Campbell Newman, Premier of Queensland, *Queensland Government's 'open data' revolution begins*, Media Statement, Queensland Government, 9 October 2016.

701   Queensland Government Chief Information Office, *Queensland Government ICT Strategy 2013-17*, Queensland, June 2013, p. 8.

9.33   Queensland does not have a state-wide open data policy although the
        Committee was advised in March that one is being drafted. However, each
        Queensland Government department and statutory body has a tailored open
        data strategy, available online, that outlines how they will manage the quality
        and release of their data.[702]

Open Data Portal

9.34   The Queensland Government has established an open data portal—
        data.qld.gov.au—which, at the time of writing, had 2,108 datasets available to
        potential users.[703]

Using Open Data

9.35   At a briefing with the Queensland Government Chief Information Office (QGCIO),
        the Committee was informed that the objective of open data was to increase
        transparency; improve self-empowerment of citizens and community groups;
        improve the efficiency and effectiveness of government services; foster research
        start-ups and an innovation culture within the State; and enable better data-
        driven public policy outcomes.[704]

9.36   The QGCIO keeps an internal record of who is accessing the data, how often, and
        for what purpose. An excellent example of how the data has been used is the
        transport app Triptastic. The Triptastic app uses local transport data—'arrival
        forecasts, vehicle tracking and service alerts'—to track buses, trains and trams
        live in a number of jurisdictions around the world, including Queensland.[705]

9.37   Following the lead of the Commonwealth, Queensland hosted a series of
        GovHack events in 2015 and 2016 with state-focused challenges. While these
        public GovHack events have been successful, the QGCIO wants to start looking at
        how data scientists can use the data to tackle targeted policy problems.[706]

9.38   The Queensland Government CIO is also focusing on how best to use the State's
        open data in collaboration with other jurisdictions, local governments,
        universities, businesses, and research organisations to achieve better policy
        outcomes.[707]

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702 Queensland Government, 'Queensland Government data: Open Data Strategies', 2016, no page.
703 Queensland Government, 'Queensland Government data', 2016, no page.
704 Mr Andrew Mills, Queensland Government Chief Information Officer, Briefing, 7 March 2016.
705 Triptastic, 'Triptastic', 2013-14, no page.
706 Mr Andrew Mills, Queensland Government Chief Information Officer, Briefing, 7 March 2016.
707 ibid.

New South Wales

Open Data Policy

9.39   The NSW Government's current ICT strategy lists open government as a priority
        initiative and agencies are being urged to ensure that government data is 'open
        by default where appropriate'.[708]

9.40   The NSW Government launched its first open data policy in 2013 and has since
        claimed that the policy has 'contributed to delivering significant improvements
        in human services, the environment, good government, road safety, and
        outcomes for vulnerable populations'.[709]

Finding 80

According to the NSW Government, its first open data policy, launched in 2013, has
helped deliver significant improvements in human services, the environment, good
government, road safety, and outcomes for vulnerable populations.

9.41   Following a review of the 2013 policy, a revised Open Data Policy was launched
        in April 2016. The 2016 policy builds on the open data principles of the 2013
        policy by listing agency obligations for each principle to ensure the data is
        managed as a strategic asset.[710]

9.42   The open data principles first introduced in the 2013 Open Data Policy include:

   * open by default, protected where required

   * prioritised, discoverable and usable

   * primary and timely

   * well managed, trusted and authoritative

   * free where appropriate

   * subject to public input[711]

9.43   The 2016 Policy also confirms the establishment of a NSW Open Data Advocate
        who 'will play a key role in ensuring that the new Open Data Policy is successfully
        implemented'.[712]

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708   Department of Finance and Innovation (NSW), *Digital+ 2016, NSW Government ICT Strategy Final
       Update*, 2015, pp. 3 and 11.
709   New South Wales Government, 'NSW ICT Strategy: News: 2016 NSW Government Open Data
       Policy and Action Plan', NSW Government, 26 April 2016, no page.
710   New South Wales Government, *Open Data Policy*, 2016, pp. 4-6.
711   ibid., p. 4.

Chapter 9

Open Data Portal

9.44   The first state level data catalogue containing NSW government data went live in 2009.[713] In 2013 a new website, data.NSW, was launched providing more advanced search functions and making it easier for users to find and use government datasets.[714]

9.45   There are currently 420 datasets, published by 53 different organisations, available on the data.NSW site.[715]

Using Open Data

9.46   NSW, like all other Australian states, competes in the annual Australian Government GovHack event and hosts some locally based GovHack-themed events.[716]

9.47   NSW also hosts a program of events called 'apps4nsw'. Similar to GovHack, apps4nsw is a competition designed to 'encourage the use' of open data to create 'innovative web and mobile applications'.[717] The apps4nsw site includes a link to the more than 25 apps that have been created through this program.[718]

9.48   A good example of how NSW open data is improving the lives of citizens has been through the effective use of transport data. Developers have been using this data to help NSW commuters determine the most efficient way to travel and the Department of Transport has 'invested in a new online Open Data Hub targeting app developers and researchers' to further this service.[719]

9.49   As is the case in Queensland the NSW Government is now looking to shift further towards using open data to develop targeted solutions to specific policy problems. [720]

New Zealand

9.50   The 2014/15 Open Data Barometer Global Report ranked New Zealand fourth (tied with France) in the world for 'allowing open access to government data'.[721]

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712 New South Wales Government, *Open Data Policy*, 2016, p. 2.
713 Mr William Murphy, Deputy Secretary, Services and Digital Innovation, Department of Finance, Services and Innovation (NSW), Briefing, 9 March 2016.
714 New South Wales Government, 'What is data.nsw.gov.au?', no date.
715 New South Wales Government, 'Data NSW', no date.
716 GovHack, 'New South Wales', no date.
717 New South Wales Government, 'apps4nsw', no date.
718 New South Wales Government, 'Apps Showcase', no date.
719 New South Wales Government, 'Data NSW > Open Data Blog, Transport Open Data and the convenience revolution', no date.
720 Mr William Murphy, Deputy Secretary, Services and Digital Innovation, Department of Finance, Services and Innovation (NSW), Briefing, 9 March 2016.

The ranking is based on readiness to secure benefits from open data; implementation of open data practices; and impacts of open data.[722]

Open Data Initiatives

9.51 It appears that New Zealand does not have one specific open data policy, but rather a number of key strategic documents. These documents, coupled with a strong governance structure, have helped underpin New Zealand's international reputation in the open data space.

9.52 New Zealand's Open Government Information and Data Programme was launched in 2008 to guide the release of non-personal, non-secure, government-held data.[723] This was followed in 2011 by the release of the Declaration on Open and Transparent Government, which commits the Government to 'actively releasing high-value public data'.[724] At the same time the New Zealand Data and Information Management Principles were approved stating that 'data and information must be open; trusted and authoritative; well managed; readily available without charge where possible; and reusable'.[725]

9.53 The New Zealand Government has established two open data-related governance groups. The first group sets the strategic direction of Government's open data initiative and the second group drives its adoption. Both groups also have monitoring and oversight responsibilities.[726]

9.54 In addition to these groups, central government agencies have each appointed a senior member to act as a 'data champion' and drive 'cultural change within their individual agencies'.[727]

Open Data Portal

9.55 To complement and support its open data initiatives the New Zealand Department of Internal Affairs administers an open data portal – data.govt.nz.

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721 Department of Internal Affairs (NZ), 'Programmes and Initiatives: New Zealand at the forefront of open data', 28 January 2016.

722 World Wide Web Foundation, *Open Data Barometer*, 2nd Edition, January 2015, pg.11.

723 Department of Internal Affairs (NZ), 'Programs and Initiatives: Open Government Information and Data Programme', 11 August 2016.

724 Department of Internal Affairs (NZ), 'Guidance and Resources: Declaration on Open and Transparent Government', 1 January 2016.

725 Department of Internal Affairs (NZ), 'Programmes and Initiatives: Open and Transparent Government', 8 August 2016.

726 Department of Internal Affairs (NZ), 'Governance and Leadership: Open Government Data Governance Groups', 8 August 2016.

727 New Zealand Government, 'Open Data Leadership: New Zealand's approach', (Transcript of presentation by the Hon. Louise Upston MP) 30 October 2015.

Launched in 2009, data.govt.nz provides access to the Government's open data in human and machine-readable formats.[728]

9.56 Currently, through data.govt.nz, users are able to access 4,388 datasets and are also able to request data that is not currently available (provided it is both non-personal and non-secure). [729]

9.57 Recent updates to this website provide links to a proposed update to data.govt.nz, which is currently in beta mode.[730]

Using Open Data

9.58 As indicated in paragraph 9.30 above, New Zealand has been participating in the Australian Government's annual GovHack event for the past two years.

9.59 In the 2015 event, over 900 'developers, students and open data enthusiasts' used more than 100 different datasets to work on 31 New Zealand-based projects in cities and towns across the country.[731]

9.60 Beyond GovHack, the ICT.govt.nz website provides an extensive list of case studies that demonstrate the impact, and benefit, of open data in New Zealand.[732]

9.61 By way of example, the Human Rights Commission (NZ) was able to employ a data science agency to build a web-based tool using open data that enables the Commission to track 'equality at work and provide an evidential basis for monitoring fairness in the workplace'.[733]

9.62 Open data in New Zealand has also been used in the development of mobile apps. For example, Nest Finder is an app which provides comprehensive information about tramping huts, camp sites, visitor centres, information centres, hostels, lodges etc., including 'how to get there, pricing and so on'.[734] The developer of Nest Finder used multiple open data sources; including the

728 Department of Internal Affairs (NZ), 'Guidance and Resources: Open Data 101', 28 July 2016.
729 New Zealand Government, 'data.govt.nz', no date.
730 New Zealand Government, 'beta.data.govt.nz', no date.
731 Department of Internal Affairs (NZ), 'Guidance and Resources – Open Data 101', 28 July 2016.
732 Department of Internal Affairs (NZ), 'Guidance and Resources – Open Data Case Studies', July 2016.
733 Department of Internal Affairs (NZ), 'Open Government Data Case Study - Dumpark', October 2015.
734 Department of Internal Affairs (NZ), 'Open Government Data Case Study – Nest Finder', July 2015.

Department of Conservation's Geoportal and New Zealand's Topographical Maps.[735]

Finding 81

The governments of Australia, NSW, Queensland, and New Zealand are among the many jurisdictions to have established open data portals through which government datasets can be accessed by the public.

Finding 82

'Hackathons' have emerged as a popular way for governments to encourage the use of open data by developers, students, and anyone with an interest in open data, to develop innovative new services and solutions.

Current status in WA

9.63   In little over a year the WA Government has worked hard to transition into the open data space to benefit from the information collected by government agencies.

Open Data Policy

9.64   According to Microsoft Australia, the WA Government has demonstrated its commitment to 'making open datasets available, usable and accessible by developers and the broader community' through the release of a whole-of-government open data policy in June 2015.[736]

9.65   The purpose of the Western Australian Whole of Government Open Data Policy (WA Open Data Policy or the Policy) is to 'increase productivity and improve service delivery'.[737] The policy aims to provide better value and benefits to Western Australians by:

- improving management and use of government data;

- enabling greater release of appropriate and high-value data;

- supporting innovation, research and education; and

- facilitating collaboration and evidence-based decision making.[738]

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735 Department of Internal Affairs (NZ), '<u>Open Government Data Case Study – Nest Finder</u>', July 2015.

736 Submission No. 15 from Microsoft, September 2015, p. 3.

737 Office of the Government Chief Information Officer (WA), *Whole of Government Open Data Policy*, April 2015, p. 1.

738 ibid.

9.66   The Policy 'applies to all agencies and organisations covered by the *Public Sector Management Act 1994*'.[739] While the 'focus' of the Policy is 'raw data' it is also applicable to value-added data.[740]   The Policy provides guidance to agencies when determining how to publish data and what data to publish. Landgate is responsible for implementing and maintaining the Policy, but the implementation will be a 'progressive and evolving process'.[741]

9.67   The WA Open Data Policy has adopted five of the common principles applied to open data by other jurisdictions. These are: open by default; easily discoverable and subject to public input; usable; protected where required; and timely.[742]

Finding 83

The Western Australian Government has adopted the following five principles for open data within its Whole-of-Government Open Data Policy: data should be open by default; easily discoverable and subject to public input; usable; protected where required; and timely.

9.68   At a public hearing the WA Government Chief Information Officer, Mr Giles Nunis, informed the Committee that:

> *...most data in the big data environment is totally useless. What we need to have is the algorithms and analytical tools that help us use the data that is made available to us and help us make better decisions.*[743]

9.69   On reflection, the Committee is unsure whether Mr Nunis was downplaying the importance of raw open data with this comment or whether he was saying that, in addition to the raw open data requirements of the WA Open Data Policy, the State would benefit from expertise in data analytics (see section starting at 9.79 below).

9.70   Adding to the ambiguity around Mr Nunis' comments on the value of raw data was a comment at the same hearing from Ms Marion Burchell, Acting Executive, Policy and Governance. Speaking in relation to the WA open data portal that was launched in July 2015, Ms Burchell said:

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739 Office of the Government Chief Information Officer (WA), *Whole of Government Open Data Policy*, April 2015, p. 3.

740 ibid.

741 ibid., p. 6.

742 ibid., pp. 4-6.

743 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 November 2015, p. 10.

Unlike other jurisdictions that decided to apply a lot of quantity datasets on their portal, we have learnt from that process and we are looking more at quality and value data sets to be placed on the data portal.[744]

<u>Open Data Portal</u>

9.71   The recently launched WA open data portal began by 'harvesting data' from Landgate's Shared Location Information Platform (SLIP) [745] and more datasets have been added since.[746]   The aim is to eventually have all government open data available through the single portal – <u>data.wa.gov.au</u>. The WA open data portal currently has 792 datasets available from 56 organisations including WA state agencies; Federal Government entities; non-government organisations; universities; and WA local governments.[747]

9.72   In addition to the open data portal, the WA Government recently launched SPUR, a dedicated 'location and innovation hub that promotes collaboration, stimulation and acceleration of new ideas'.[748]   The SPUR website is 'powered' by Landgate and it manages data.wa.gov.au on behalf the WA Government.[749] In addition to providing a single entry point to government data, SPUR also promotes collaboration between researchers and innovators via networking events and the provision of a 'co-working space' at Landgate's head office in Midland.[750]

<u>Using Open Data</u>

9.73   In its submission to the Committee Microsoft states the benefits of open data can be enhanced by 'releasing data in parallel with running innovation events'.[751] These events can be broad in nature or can be targeted to address a specific policy problem.

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744 Ms Marion Burchell, Acting Executive Director, Policy and Governance, WA Government Chief Information Office, *Transcript of Evidence*, 18 November 2015, p. 9.

745 SLIP was created as a whole-of-government open data platform for location-based data in WA. It is a multi-agency initiative with approximately 4,000 datasets available. Submission No. 10 from Landgate, 11 September, 2015, p. 11.

746 Government of Western Australia, *data.wa.gov.au*, 2016.

747 Government of Western Australia, *data.wa.gov.au - Datasets*, no date.

748 Government of Western Australia and Landgate, 'SPUR', no date.

749 Government of Western Australia and Landgate, 'SPUR-Data', no date.

750 Government of Western Australia and Landgate, 'About SPUR', no date.

751 Submission No. 15 from Microsoft, September 2015, p. 3.

9.74   The WAGCIO has been 'encouraging a variety of different hack events'[752] including the recent Start IT Up WA Challenge and a series of state-based GovHack competitions.

9.75   The Start IT Up WA Challenge was announced by the WA Minister for Innovation, the Hon. Bill Marmion MLA, in June of this year. The event offers $100,000 in prize money for the 'use of government data' in developing successful 'innovative solutions to government problems' that can be 'integrated into the everyday operations of government agencies'.[753]

9.76   WA also recently participated in the Australian Government's GovHack event for the fourth year in a row, with one of the WA-based events staged in Geraldton for the first time.[754]   According to Minister Marmion 'the continued success of GovHack makes it clear that West Australians are thinking creatively to solve many issues using Government data'.[755]

9.77   At the 2015 GovHack event $30,000 was made available for WA state-based prizes and WA teams won over $16,000 from the national prize pool.[756]

Digital WA

9.78   WA's whole-of-government ICT strategy, *Digital* WA reiterates the importance of open data. The Strategy's first Roadmap Theme, 'Information and Analytics' outlines the expectation that the open data portal 'will continue to evolve and mature as a key strategic offering to the community and business in order to facilitate innovation and niche start-ups'.[757]

Data analytics

9.79   Evidence received by the Committee, in particular the experiences of NSW and Queensland, indicates that the next step in the evolution of open data is data analytics. Deloitte Access Economics reflects a common view when it claims

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752 Mr Giles Nunis, Government Chief Information Officer (WA), *Transcript of Evidence*, 18 March 2016, p. 14.
753 Hon Bill Marmion MLA, Minister for State Development; Finance; Innovation, *$100,000 prize money for Start IT Up WA Challenge*, Media Statement, Government of Western Australia, WA, 25 June 2016.
754 Hon Bill Marmion MLA, Minister for State Development; Finance; Innovation, *GovHack WA's innovation reputation*, Media Statement, Government of Western Australia, WA, 30 July 2016.
755 ibid.
756 GovHack WA, 'GovHack WA', no date.
757 Office of the Government Chief Information Officer (WA), *Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020*, 26 May 2016, p. 31.

there is little doubt that 'growth in data analytics' will assist with making more informed decisions.[758]

9.80   Throughout its research the Committee identified private data analytic centres that accessed and utilised both government open data and other forms of data[759], but it was more difficult to identify governments that were progressive with data analytics.

9.81   Even the NZGCIO team acknowledged that despite being well advanced in the open data space, New Zealand 'still has some way to go' in the data analytics sphere.[760]

9.82   One jurisdiction that did stand out to the Committee was New South Wales and its Data Analytics Centre (NSW DAC).

New South Wales

9.83   The NSW DAC was announced in August 2015 and has since been established within the NSW Department of Finance, Services and Innovation.[761]

9.84   The purpose of the DAC is to:

- 'identify problems or challenges facing the NSW Government in collaboration with agencies

- collect and analyse cross cluster or whole-of-government data to better understand problems, challenges and opportunities

- drive better practice in data sharing and analytics….

- bring new focus and insight to existing policy challenges, while opening up opportunities to consider new ways of designing better customer services.'[762]

9.85   In November 2015 the NSW Parliament passed the *Data Sharing (Government Sector) Bill 2015* that will 'enable data sharing across government agencies and support the functioning of the NSW Data Analytics Centre'.[763]

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758 Deloitte Access Economics, *Digital government transformation*, Sydney, NSW, 2015, p.20.
759 INSEAD, 'Centres of Excellence – INSEAD eLab', 2016; MuSigma, 'MuSigma', 2016; International Organisation for Migration, 'Global Migration Data Analysis Centre', 2015.
760 Mr Duncan Reed, General Manager, System Transformation, Department of Internal Affairs (NZ), Briefing, 10 March 2016.
761 New South Wales Government, 'NSW ICT Strategy: NSW Data Analytics Centre', no date.
762 Department of Finance and Innovation (NSW), *Digital+ 2016, NSW Government ICT Strategy Final Update*, 2015, p. 9.

Finding 84

Governments are increasingly looking towards how open data can be formally analysed to identify and solve policy problems using evidence-based innovative ICT solutions. NSW appears to be the most advanced Australian jurisdiction in this sphere having recently established a Data Analytics Centre.

Current status in WA

9.86   *Digital* WA has identified the need to move towards data analytics as part of the State's broad ICT reform program. *Digital* WA's first Roadmap Theme, Information and Analytics, includes plans for a Government Analytics initiative. From this initiative, it is intended that:

> *A whole-of-government Business Intelligence/Analytics capability sitting across multiple agencies' data will inform operational and policy decisions, and lead to faster and more reliable service delivery…The final solution will need to support both data scientists who will mine and analyse data at a deep level, and executives who need to be able to easily interrogate data at a high level.*[764]

9.87   Based on the timeframe set out in *Digital* WA the Government will commence work on the data analytics initiative in the second half of 2019.[765]

Committee's View

9.88   The Committee supports the WA Open Data Policy, in particular its focus on raw data and the "open by default" approach it has adopted. While the Policy currently lacks detail, the Committee notes that supporting materials to provide further support and guidance for government agencies are in the pipeline (see 3.41 above).

9.89   The Committee sees benefit in governments taking an "open by default" approach to publishing open data and acknowledges that jurisdictions where this approach has been adopted have in place policy measures to ensure data that is sensitive in nature (national security, privacy, commerciality etc.) is protected.

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763 Hon. Victor Dominello MP, Minister for Innovation and Better Regulation NSW, _Whole-of-Government Data Analytics Centre A Step Closer_, Media Statement, Department of Science and Innovation, NSW, 18 November 2015.

764 Office of the Government Chief Information Officer (WA), _Digital WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020_, 26 May 2016, p. 31.

765 ibid.

9.90 In terms of the most appropriate data forms, most evidence has suggested raw data provides the greatest potential benefit. While the WA Open Data Policy appears to advocate the promotion of raw data, comments from the WAGCIO (see 9.68 to 9.70 above) has left some ambiguity in the mind of the Committee as to the State's position on the preferred form of data to be made available (e.g. raw or value-added). These comments produced some further uncertainty as to the implications that a possible preference for value-added data over raw data will have on the Policy's current position that data should be open by default. The Committee therefore includes a recommendation that seeks clarification on these matters.

Finding 85

The Committee has noted some ambiguity between the testimony of the WAGCIO and the content of the Whole of Government Open Data Policy as to the Government's position on whether public sector data should be made open by default in raw form.

Finding 86

The Committee is of the view that public sector data should be made open by default in raw form.

Recommendation 18

The WAGCIO and Landgate clarify if the Western Australian Whole-of-Government Open Data Policy is encouraging an 'open by default' approach and if the focus of the Policy is on 'raw data'.

9.91 The Committee supports the WA Start IT Up Challenge and was pleased to see the high level of WA participation at the 2016 GovHack event. The Committee agrees with Minister Marmion's comment when he said '[t]he continued success of GovHack makes it clear that West Australians are thinking creatively to solve many issues using Government Data'.[766]

9.92 While the Committee sees significant benefit in these events it also understands the importance of the growing trend towards data analytics capability. In this respect, the Committee was impressed by the work NSW has done in setting up their Data Analytics Centre.

9.93 Data analytics is likely to help governments uncover innovative and evidence-based solutions to specific policy problems. Hence, the Committee's support for the Government Analytics Initiative outlined in *Digital* WA.

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766 Hon Bill Marmion MLA, Minister for State Development; Finance; Innovation, *GovHack WA's innovation reputation*, Media Statement, Government of Western Australia, WA, 30 July 2016.
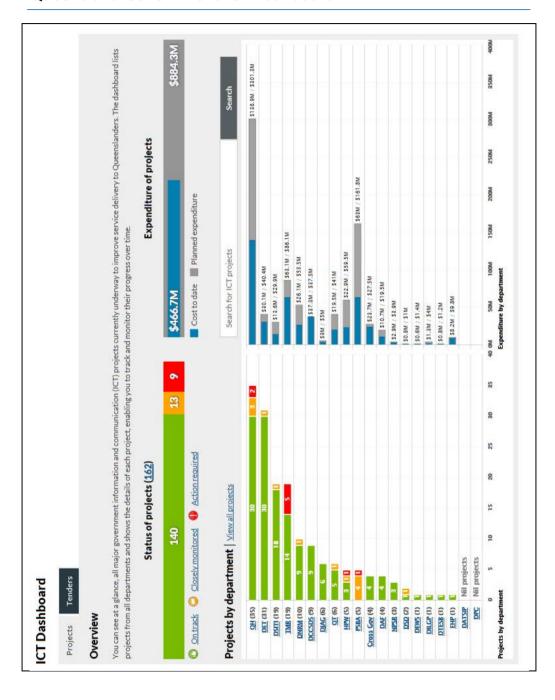
Finding 87

Digital WA includes plans to establish whole-of-government Business Intelligence/Analytics capability using data provided by public sector agencies. The Committee supports this initiative, which is currently scheduled to begin development in the second half of 2019.

HON DR K.D. HAMES, MLA
CHAIRMAN

Appendix One

Queensland Government ICT Dashboard

Appendix Two

GovNext-ICT Contract Principles

Government of **Western Australia**
Office of the Government Chief Information Officer

GOVNEXT-ICT CONTRACT PRINCIPLES

1. **Competitive Tension** – the State intends to appoint multiple (2 or 3) Prime Contractors for the provisioning of GovNext-ICT services (GovCloud and GovNet).

2. **Comparable Contracts** – contract departures should be kept to a minimum. Ideally, all GovNext-ICT service providers will have identical contracts with the State.

3. **Single Channel Selling** - GovNext-ICT contracts will be designated as mandatory whole of government arrangements in accordance with State Supply Commission polices. Agencies can only buy their ICT infrastructure service requirements under the GovNext-ICT contracts.

4. **Whole-of-Government pricing** - GovNext should leverage the buying power of all-of-WA Government and provide the best possible price discounts and value-add services to all government agencies. A lower price offered to one agency must be offered to all.

5. **Continuously Provides Best Price** – suppliers are free to lower their pricing at any time to stay competitive. The State expects prices to only go down. Potential price increases would be negotiated with the State and require agreement of all participating agencies.

6. **Consumption based pricing** – Government does not expect to pay capital for infrastructure going forward. GovNext-ICT should enable Government ICT to move from asset ownership to consumption based "pay-as-you-go" subscription services for compute, storage and communication services. Purchase must be on consumption of services which are readily scalable up and down, not leasing of infrastructure assets.

7. **Tiered pricing** - The GovNext-ICT contract allows lower costs as more agencies join.

8. **Open Panel** –Prime contractors can add additional suppliers to the GovCloud and GovNet service catalogue at any time.

9. **Simple Agency sign up** – under the GovNext-ICT contracting framework, agencies will be able to sign up with the Prime Contractors through the signing of a standardised enrolment agreement. This will provide agencies with access to the Prime Contractors full range of GovNext-ICT services.

10. **Service Transparency** – suppliers must provide comprehensive service catalogues to allow agencies a simple choice between providers and between different service options.

11. **Interoperability** – Prime Contractors will be required to make their services interoperable. In particular, providers of GovCloud services will be required to ensure interoperability between all GovNet service providers.

12. **Treatment of Government Assets** – use of existing government owned telecommunication and communication assets should be maximised.

13. **Multi-level reporting and forecasting** - GovNext Prime Contractors must provide comprehensive usage information and reporting. This is to allow the State and its agencies appropriate overview about both past and current usage and cost, as well predictions on future usage and cost.

14. **Regular Performance Reviews** – Prime Contractors must participate in regular service and pricing reviews. The State can remove suppliers from the GovNext service towers if their performance is inadequate or if they cannot provide interoperable services.

15. **Drive Innovation** - GovNext-ICT suppliers must provide regular information on new service offerings and process innovations, as well as optimisation and cost savings potentials for the State

16. **Risk-Reward** – Prime Contractors are incentivised to reduce the State's ICT footprint and costs.

17. **Data Protection and Data Sovereignty** – All data should be stored in Australia, unless it is public information.

Appendix Three

Correspondence from the Department of Finance – ICT Projects

Attachment A

ICT Procurement Projects – March 2014 to March 2016

Client Reference	Client Agency	Procurement Title	Estimated Value	Date Awarded	Gateway Review Yes/No	Gateway Review Gate/s
DOH59210	Housing	Supply of a Housing Management System and Associated Services	$14,000,000	Feb-14	Yes	Readiness for Service
DoH1186913	Health	Back of House Systems Catering [PCH]	$6,944,000	Jul-14	Yes	Tender Decision
MRWA014612	Main Roads WA (MRWA)	Provision of Systems Development, Enhancement and Support Services	$35,000,000	Jul-14	No	
GESB12005/12 2012/05303	GESB	IT Infrastructure Management Services	$20,000,000	Aug-14	No	
DCS0062014	Corrective Services (DCS)	System Support Services	$16,656,000	Aug-14	No	
WAPOLO3413	WA Police	Provision of Infrastructure Systems, with integrated support and maintenance of equipment (SUN and HP)	$12,500,000	Nov-14	No	
DOC49710	Commerce	Stage 2 Regional Mobile Communications Project (RMCP) with Telstra	$10,000,000	Dec-14	No	
DoH1117414	Health	Core ICT Network Hardware Implementation and Commissioning	$13,123,000	Jan-15	No	
WAPOLO5813	WA Police	Replacement Computer Aided Despatch (CAD) System	$25,600,000	Jul-15	Yes	Readiness for Market and Tender Decision x 2
ETT2176/2012	Education	School Information System & Associated Services	$32,000,000	In progress	Yes	Readiness for Market
DoH1139713	Health	Integrated Health Solution (IHS) and Services (P0147)	$47,800,000	All offers declined	No	
ED15034	Education	Network Integration and Support Services	$15,454,000	In progress	No	
WAPOL7515	WA Police	Automated Traffic Enforcement Camera Replacement and Expansion	$91,818,000	In progress	No	
DoH1073014	Health	Provision of a Laboratory Information System for PathWest	$54,000,000	In progress	Yes	Tender Decision
DoH1150513	Health	Medical Imaging Platform Solution	$75,000,000	In progress	No	
DoH0102815	Health	Information System for WA Country Health Service	$10,600,000	In progress	No	
GNICT2015	Finance	Supply of compute, storage, cloud computing, and a unified government communications network for whole-of-government (GovNext Project)	$3,000,000,000	In progress	Proposed	Tender Decision Review proposed for May/June 2016

Appendix Four

Inquiry Terms of Reference

The Public Accounts Committee will inquire into and report on the procurement and contract management framework applicable to the delivery of Information and Communications Technology (ICT) projects across the public sector.

The Committee will focus on examining elements of best practice in ICT procurement and contract management and the ways in which these can be applied in Western Australia.

Appendix Five

Committee's Functions and Powers

The Public Accounts Committee inquires into and reports to the Legislative Assembly on any proposal, matter or thing it considers necessary, connected with the receipt and expenditure of public moneys, including moneys allocated under the annual Appropriation bills and Loan Fund. Standing Order 286 of the Legislative Assembly states that:

The Committee may -

1 Examine the financial affairs and accounts of government agencies of the State which includes any statutory board, commission, authority, committee, or trust established or appointed pursuant to any rule, regulation, by-law, order, order in Council, proclamation, ministerial direction or any other like means.

2 Inquire into and report to the Assembly on any question which -

   a) it deems necessary to investigate;

   b) (Deleted V. & P. p. 225, 18 June 2008);

   c) is referred to it by a Minister; or

   d) is referred to it by the Auditor General.

3 Consider any papers on public expenditure presented to the Assembly and such of the expenditure as it sees fit to examine.

4 Consider whether the objectives of public expenditure are being achieved, or may be achieved more economically.

5 The Committee will investigate any matter which is referred to it by resolution of the Legislative Assembly.

Appendix Six

Submissions Received

No.	Name	Position	Organisation
1	Mr Mal Wauchope	Public Sector Commissioner	Public Sector Commission
2	Mr E John Blunt FCILT		
3	Ms Anne Nolan	Director General	Department of Finance (WA)
4	Mr Paul Wilkins	GM innovation & Strategy	Ajilon Australia Pty Ltd
5	Commissioner John McKechnie QC	Corruption and Crime Commissioner	Corruption and Crime Commission (WA)
6	Mr Peter Harrison	Principal	Value Management Consulting
7	Mr David Cox	Managed Services Specialist	Datacom
8	Mr Craig Scroggie	Chief Executive Officer	NEXTDC
9	Mr Anthony Kannis	Executive Director	WA Police
10	Mr Mike Bradford	Chief Executive	Landgate
11	Mr Phil Towers	Manager, Strategic Deals and New Markets	BAI
12	Mr Giles Nunis	A/Chief Executive and Government Chief Information Officer	Office of the Government Chief Information Officer
13	Mr Mike Nisbet	President	ISACA Perth Chapter
14	Mrs Cheryl Robertson	Chair WA State Council	Australian Information Industry Association
15	Mrs Cheryl Robertson	State Director, WA	Microsoft Australia
16	Dr David Russell-Weisz	Director General	Department of Health (WA)
17	Ms Sharyn O'Neill	Director General	Department of Education (WA)
18	Closed Submission	Industry professional	

Appendix Seven

Hearings and Briefings

Hearings

Date	Name	Position	Organisation
18 November 2015	Mr Giles Nunis	Government Chief Information Officer	Office of the Government Chief Information Officer (WA)
	Ms Marion Burchell	Acting Executive Director, Policy and Governance	
18 November 2015	Mrs Cheryl Robertson	Chair WA	Australian Information Industry Association
	Mr Thomas Gardner	State Government Liaison	
16 March 2016	Mr Michael Bradford	Chief Executive	Landgate
	Mr John Wreford	General Manager, Finance, Information and Legal Services	
23 March 2016	Ms Anne Nolan	Director General	Department of Finance (WA)
	Mrs Stephanie Black	Executive Director, Government Procurement	
23 March 2016	Mr Reece Waldock	Director General	Department of Transport (WA)
	Ms Nina Lyhne	Managing Director, Transport Services	
	Mrs Ann King	General Manager, Driver and Vehicle Services	
	Mr Christian Thompson	Executive Director, Business Information Systems	
6 April 2016	Dr Timothy Griffin	A/Director General	Department of Mines and Petroleum (WA)
	Mr Mietek Banaszczyk	Executive Director, Corporate Support	
	Ms Gee Lightfoot	General Manager, Information Services	
6 April 2016	Dr David Russell-Weisz	Director General	Department of Health (WA)
	Mrs Rebecca Brown	Deputy Director General	

Date	Name	Position	Organisation
11 May 2016	Mr Paul Wilkins	General Manager, Innovation and Strategy	Ajilon Australia Pty Ltd
18 May 2016	Mr Giles Nunis	Chief Executive/Government Chief Information Officer	Office of the Government Chief Information Officer (WA)
	Dr John Dixon	Director, Policy and Governance	
18 May 2016	Mr Jonathan Ladd	Chief Executive Officer	Datacom WA
	Mr David Povey	Director	
	Mr David Cox	Services Specialist	

Briefings

Date	Name	Position	Organisation
17 June 2015	Mr Colin Murphy	Auditor General	Office of the Auditor General (WA)
	Mr Peter Bouhlas	Senior Director, Information and Systems Performance Audit	
24 June 2015	Ms Anne Nolan	Director General	Department of Finance (WA)
	Mrs Stephanie Black	Executive Director, Government Procurement	
	Mr Giles Nunis	A/Chief Executive and Government Chief Information Officer	
24 June 2015	Mr Alistair Jones	A/Executive Director, Strategic Policy and Evaluation	Department of Treasury (WA)
	Ms Kaylene Gulich	A/Executive Director, Infrastructure and Finance	
16 September 2015	Mr David Povey	WA General Manager	Datacom (WA)
	Mr David Cox	Managed Services Specialist	
	Mr Gary Croucher	State Government and PBI Client Executive	

Date	Name	Position	Organisation
7 March 2016	Mr Andrew Mills	Queensland Government Chief Information Officer	Queensland Government Chief Information Office, Department of Science, IT and Innovation, Queensland
	Ms Fiona Armstrong	General Manager, One-Stop Shop Strategy & Implementation Office, Digital Productivity and Services	
	Mr Stuart Taggart	Director, Strategic Profiling	
	Mr Andrew Ee-Kuan Low	Senior Enterprise Architect	
	Mr David Ainscough	A/Director, Open Data Policy	
8 March 2016	Mr Paul Madden	Deputy Secretary, Special Advisor Strategic Health Systems and Information Management	Commonwealth Department of Health
	Ms Bettina Konti	First Assistant Secretary – Digital Health	
	Mr Daniel McCabe	First Assistant Secretary, Information Technology Division	
8 March 2016	Mr Gary Sterrenberg	Chief Information Officer	Commonwealth Department of Human Services
8 March 2016	Mr John Sheridan	First Assistant Secretary, Technology and Procurement	Commonwealth Department of Finance
8 March 2016	Mr Paul Shetler	Chief Information Officer	Digital Transformation Office
9 March 2016	Mr William Murphy	Deputy Secretary, Services and Digital Innovation	Department of Finance, Services and Innovation
	Ms Rachna Gandhi	Chief Executive Officer, Services NSW	

Date	Name	Position	Organisation
10-11 March 2016	Mr Tim Occleshaw	Government Chief Technology Officer and Deputy Chief Executive, Service and System Transformation	Department of Internal Affairs (NZ)
	Mr Chris Webb	General Manager, Commercial Strategy and Delivery, Service and System Transformation	
	Mr Duncan Reed	General Manager, System Transformation, Service and System Transformation	
	Ms Alison Schulze	Director, ICT Assurance, Service and System Transformation	
	Ms Jane Kennedy	Manager, AOG ICT Commercial Services, CSD, Service and System Transformation	
	Mr Karl McDiarmid	General Manager, Service Innovation, Service Delivery and Operations	
	Mr Dave Jackman	Manager AOG ICT Common Capabilities, CSD, Service and System Transformation	
	Mr Phil Cutforth	AOG Enterprise Architect, Government Enterprise Architecture Team, Service and System Transformation	

Date	Name	Position	Organisation
	Mr Graeme Hearfield	Senior Advisor, Market Insights, CSD, Service and System Transformation	
	Ms Sophary Dim	Product Manager, AOG ICT Common Capabilities, CSD, Service and System Transformation	
10 March 2016	Mr Mark Richards	Market Capability and Development Manager	Ministry of Business, Innovation and Employment (NZ)
11 March 2016	Mr Simon Mason	Portfolio Commercial Director	Inland Revenue Department (NZ)
11 March 2016	Mr Bryce Johnson	Manager Service Delivery, Business Technology and Information Services – Corporate Services	Ministry for Primary Industries (NZ)

Appendix Eight

Acronym List

Acronym	Full Title
aaS	as-a-service
AIIA	Australian Information Industry Association
ATO	Australian Taxation Office
AUD	Australian dollar
BIG	Business Impact Group (WA)
BPS	Better Public Service initiative (New Zealand)
CaaS	communications-as-a-service
CEO	chief executive officer
CIO	chief information officer
COBIT	Control Objectives for Information and Related Technology
CTA	Chief Technology Advocate (Victoria)
CUA	Common Use Arrangement
CWP	common web platform
DaaS	desktop-as-a-service
Digital WA	*Digital* WA: Western Australian Government Information and Communications Technology (ICT) Strategy 2016 - 2020
DMP	Department of Mines and Petroleum (WA)
DoT	Department of Transport (WA)
DTO	Australian Government Digital Transformation Office
EERC	Economic and Expenditure Reform Committee (WA)
FTE	full-time equivalent
GCIDO	Chief Information and Digital Officer (NSW)
GCIO	Government Chief Information Officer
GovNext-ICT	GovNext-ICT Program (WA)
GSB	GovNext-ICT Service Broker (WA)
IaaS	infrastructure-as-a-service
IAM	Identity Access Management system (WA Health)
ICT	Information and Communications Technology
IRRF	ICT Renewal and Reform Fund (WA)
KPI	key performance indicator
MPI	Ministry for Primary Industries (New Zealand)
NISA	National Innovation and Science Agenda (Commonwealth)
NIST	United States' National Institute of Standards and Technology
NSW	New South Wales
NSW DAC	Data Analytics Centre (NSW)

Acronym	Full Title
NZ	New Zealand
NZD	New Zealand dollar
NZGCIO	New Zealand Government Chief Information Officer
OECD	Organisation for Economic Cooperation and Development
PaaS	platform-as-a-service
PwC	Pricewaterhouse Coopers
QGCIO	Queensland Government Chief Information Office
QLD	Queensland
RIO	return on investment
RPA	Risk Profile Assessment (New Zealand)
SaaS	software-as-a-service
SAMF	Strategic Asset Management Framework (WA)
SIGB	Secretaries ICT Governance Board (Commonwealth)
SME	small and medium enterprise
TaaS	telecommunications-as-a-service
UK	United Kingdom
US	United States
WA	Western Australia
WA Health	Department of Health (WA)
WAGCIO	Government of Western Australia Office of the Government Chief Information Officer

Appendix Nine

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