This background paper was authored by the Service Priority Review secretariat in consultation with, and to inform the work of, the Service Priority Review Panel. Every effort has been taken to ensure accuracy, currency and reliability of the content. The paper is not intended to be a comprehensive overview of the subject nor does it represent the position of the Western Australian Government. Changes in circumstances after the time of publication may impact the quality of the information.

The following background papers are published in full on the Department of the Premier and Cabinet website: [www.dpc.wa.gov.au](http://www.dpc.wa.gov.au)

1. Agency capability reviews
2. Best practice regulation
3. Overview of the budget process
4. Counterproductive rules and processes
5. Digital transformation
6. Engaging with the community
7. Functional leadership
8. Government boards and committees
9. Government trading enterprises
10. Leader performance management and accountability
11. One sector workforce
12. Privacy and information sharing
13. Procurement of goods and services
14. Public sector employment framework
15. Role of the centre
16. Service design and delivery
17. Successful implementation of reform
18. Whole-of-government targets
Introduction

Governments are increasingly turning to digital transformation, changing the way public sector functions and activities are delivered by leveraging available information and communications technologies (ICT), to meet the expectations of citizens\(^1\) and drive improvements in performance.

Digital transformation can generate significant efficiencies by streamlining service delivery processes and reducing the number of interactions required to access a government service, and shifting transaction volumes from higher-cost channels (such as face to face and telephone) to lower cost digital channels that support self-service.\(^2\) Savings can also be realised in the procurement of ICT at a systems – rather than enterprise – level.

From an effectiveness perspective, the adoption of more innovative and customer-focused ICT solutions can enable greater responsiveness to community and consumer needs\(^3\), particularly where client data can be shared between agencies to inform decision making\(^4\).

The complexity of client needs and the monopolistic nature of bureaucracies have resulted in many governments being slow in using digital technologies to transform culture and service delivery.\(^5\) However, the potential benefits should not be ignored. The challenge for governments is to determine the best digital approach to meet the specific needs of their respective communities and public sectors.

Progress of digital transformation in Western Australia

Digital transformation presents a significant opportunity for the Western Australian public sector, which currently spends between $1 billion and $2 billion per annum on ICT.\(^6\)

The State Government has long recognised the importance of ICT in delivering better public services. In 2004, for example, the Gallop Government launched an e-Government strategy

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\(^4\) A separate review Secretariat background paper addresses considerations in relation to privacy and information sharing.


to “help agencies examine their core business and move closer to the delivery of seamless, efficient and citizen-focused services”.7

In 2009, the Economic Audit Committee (EAC) made several recommendations related to digital transformation, including:

- streamlining payments and concessions by consolidating administration into a single point in government and utilising citizen-centred ICT solutions
- the establishment of a chief information officer role to identify opportunities for using ICT to promote collaboration and citizen-focused service design and delivery
- the establishment of a chief technology officer role to promote and coordinate strategic public sector ICT investment and procurement processes.8

Aspects of the EAC recommendations were addressed in the establishment of the Office of the Government Chief Information Officer (OGCIO) in 2015 as detailed later in this paper.

It is estimated that only 2.5 per cent of Government services are available online.9 In 2016, the Office of the Auditor General (OAG) found “WA lags behind best practice in making government services available and easy to use online. In the absence of centralised leadership, agencies have generally not seen the move to online delivery as a priority despite increasing customer demand and available efficiencies”.10 OAG concluded that $2.2 billion in savings could be realised over the next 10 years by moving half of phone and mail transactions online.11

During the review consultation process, stakeholders raised several barriers limiting digital transformation within the WA public sector, including the siloed nature of government agencies; high levels of bureaucratic, legal and cultural barriers; complex governance structures; barriers to the reallocation of resources into advancing the digital agenda; and a lack of ICT capability. The geographical dispersion of WA communities, regional connectivity issues, and expensive telecommunications pricing are additional factors that need to be considered.12

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11 Ibid. p5.
ICT leadership

Effective leadership is critical to the success of any ongoing transformational effort. In particular, strong functional leadership\textsuperscript{13} has the potential to improve ICT decision making, cross-departmental collaboration, organisational capability, efficiency, resilience and control.

Prior to 2015, the Office of e-Government (OeG) (initially established in the Department of the Premier and Cabinet (DPC) and subsequently transferred to the Public Sector Commission) had carriage for “the strategic transformation of operations of Government, using technology as a tool to improve internal efficiency, service delivery to citizens and community participation”.\textsuperscript{14} In practice however, it appears OeG’s role was limited to the provision of strategic advice on ICT-related projects (e.g. shared corporate services project, procurement reform project). OeG appears to have lacked the necessary mandate and resources to lead a whole-of-government reform agenda as envisaged under the then Government’s ICT strategy.

In July 2015, the Government established the OGCIO as a sub-department of the Department of Finance under section 56 of the \textit{Financial Management Act 2006} (WA).\textsuperscript{15} The OGCIO is responsible for collaborating with government agencies and industry to stabilise costs, increase value for money and minimise risk in the delivery of ICT across the public sector by:

- advising on governance and implementation of ICT projects
- establishing and driving a whole-of-government ICT strategy, policy and reform agenda
- identifying and advising on ICT innovation, which will support and enhance government services to meet business and community needs
- promoting ICT standardised approaches across government
- implementing frameworks which improve public sector capability and capacity.\textsuperscript{16}

However, stakeholders have pointed to an ongoing lack of whole-of-government ICT leadership. The above OGCIO remit is widely regarded as ambiguous and without the requisite mandate. Some have suggested there is a lack of clarity around accountability and governance in the performance of the office’s functions. Further, it is apparent that the WA public sector requires effective leadership across several ICT-related areas including procurement, integrated service delivery, cyber security, data analytics and building digital skills capability.


Further, in 2016 a Parliamentary committee questioned whether “the OGCIO in its current form will have the required capacity to discharge its many responsibilities in an effective manner going forward”, noting the ICT funding and resourcing allocations in other jurisdictions.17

Other Australian public sectors have established ICT functional leadership roles to drive cross-government consistency in technology-related matters. However, given the constantly evolving nature of these functions, the review has not been able to obtain reliable information regarding performance and effectiveness.

Broadly, each functional leader has been given a clear mandate and accountabilities while working collaboratively with other agencies in implementation. Notably, the specific areas for which each leader is responsible varies by jurisdiction and appears largely dependent on each government’s individual ICT priorities. This also has significant bearing on funding and resourcing requirements.

In New South Wales, the Government chief information and digital office (GCIDO) is directly accountable for leading ICT policy and innovation; ICT assurance; government technology platforms; information security; the data analytics centre; state archives and records; the New South Wales Telco Authority; spatial services; and information security.18 The GCIDO has whole-of-government oversight for all major ICT projects to ensure better integration across all departments and optimal cost outcomes.

In Victoria, the Department of Premier and Cabinet enterprise solutions branch is responsible for reporting on the State’s ICT investments and shared services, and producing governance frameworks and policy directives for whole of Victorian Government shared services and ICT.19

The Queensland Government chief information officer (QGCIO) has existed in various forms since 2005 and currently exists as a division of the Department of Science, Information Technology and Innovation (DSITI).20 While its overarching objective is related to improved ICT procurement, its specific responsibilities are focused on collaboration with ministers and agencies on issues including setting ICT strategy, procurement policy, risk identification and management, and workforce capability. The ‘primary design authority’ for multi-agency ICT investment, it reviews budget submissions in relation to ICT projects and has expansive monitoring and assurance functions.21 Notably, a separate division of DSITI has responsibility for all ICT commercial matters.22

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The Commonwealth Government established the standalone Digital Transformation Agency as its ICT functional leader in 2015, which reports directly to the assistant minister for cities and digital transformation. Its mandate is extensive and includes digital transformation of government services, procurement oversight, building digital capability and providing transparency on ICT projects.23

Whole-of-government ICT strategy

Most Australian public sectors have published digital transformation strategies setting out government objectives, key initiatives to realise those objectives, project plans, and allocation of responsibility for delivery.

Launched in 2013, the Queensland ICT strategy contains objectives related to effective digital services for both clients and government agencies and enhanced ICT workforce capabilities.24

The Victorian Government’s ICT Strategy25, which was launched in 2016, focuses on four priority areas – information and data reform, digital service delivery opportunities, technology reform within the public sector, and improving ICT-related skills capability. The Victorian Government also publishes a yearly action plan and progress reports against the strategy’s identified targets.

The NSW digital strategy was launched in 2017 and contains priority areas in relation to customer experience, data usage and internal public sector digital improvement.26 The GCIDO is required to provide biannual progress updates to the Cabinet Expenditure Committee.

The Digital WA: Western Australian Government ICT Strategy 2016-2020 (Digital WA) was published by OGCIO in May 2016, with the objective of positioning “the public sector as a whole to use the opportunities provided by current and emerging technologies to deliver efficient, reliable ICT services that support exceptional public services”.27

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**Digital WA – ICT Strategic Goals**

**SIMPLIFY – Things don’t need to be complicated**

Implementation of common frameworks and platforms will lead to less duplication and more efficient use of technology. Clear ICT policies and standards will guide agencies alignment with whole-of-government ICT objectives and leverage commercially attractive contracts and services as part of a single, unified government. Greater use of ‘pay as you go’ and ‘as a service’ solutions will allow agencies to focus resources on systems supporting the unique core services they provide.

**CONNECT – Everything connects to everything else**

Access to digital government services will make online transactions easier than ever. Agencies will share information to deliver projects and services efficiently and more targeted to community needs. Agency systems will share data and functions using secure networks to deliver seamless services to the community online or in person. A broader range of sourcing options and more streamlined procurement will foster more effective ties between government and the evolving technology sector.

**INFORM – Knowledge is the first step to success**

Reliable, relevant data will inform government officials to support well-coordinated and timely decisions. Frontline staff will have easier and more mobile access to information sourced securely from systems across government. Enhancement of digital skills and knowledge within the public sector will assist in making better use of new technologies and enable closer cooperation between business and ICT professionals within agencies. Ever-increasing availability of high quality open data will support the economic growth of the local business and start-up community.

While Digital WA appears to address some necessary ‘pillars’ to advance digital transformation in the public sector (e.g. common ICT infrastructure and platforms across government, a single point of access to online transactional services, improved data sharing), the following observations have been made by stakeholders:

- Digital WA is primarily inward looking, focused on maturing the public sector’s digital capabilities and realising efficiencies, rather than first identifying external customer needs
- there is, in some areas, a lack of clarity and cohesiveness between the various strategic goals, vision statements, roadmap initiatives, principles, governance, delivery controls and project timelines
- Digital WA lacks the necessary leadership or designation of accountabilities for successful implementation
- the commitments and timeframes are ambitious, and there is insufficient detail on how targets will be achieved or the impact on individual agency budgets or ICT projects
- there is minimal obligation on public sector agencies to participate in Digital WA initiatives
- there has been a lack of cross-sector coordination of efforts to digitise/modernise office backend processes. There has also been little analysis of current online government services and potential services that can shifted online

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28 Ibid. p8.
there is no central coordination for the oversight of government data, or consideration of how ICT might be used as an enabler to pull together the various data sets available to government.

To date, OGCIO has prioritised its efforts under Digital WA in relation to procurement, consolidating government ICT infrastructure and implementation of an online service delivery platform.29

**Integrated service delivery**

Digital services can be used to “deliver more convenient services to the community around the clock, eliminate unnecessary red tape, remove paper-based and manual processes and improve coordination across government”.30

However, the Australian public sector experience with digital transformation, particularly in relation to outward facing transactional service delivery, has been mixed.31

Experts caution that, rather than a desire to build agency branding or to demonstrate public engagement, the best digital public services focus on the needs of service users.32 By way of example, 14 per cent of Australia’s population does not have access to the internet at home33 while, in 2016, Perth internet speeds were the worst of any Australian capital city.34

In addition, the Government’s Regional Services Reform Unit recently found the lack of telecommunication services is a key concern for many remote communities, “with many reporting no mobile or internet coverage and reliance on a single landline or payphone (which were often out of service)”.35 This has obvious implications for Australian governments in developing and implementing whole-of-sector digital service strategies. The Government is seeking to address this shortfall via the regional mobile communications project. The Regional Services Reform Unit is also working with the Department of the Prime Minister and Cabinet regarding expansion of the national broadband network into remote communities.36

Clearly, in such circumstances, not everyone is in the best position to be a recipient of online service delivery.

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31 For example, see initial security and operating issues in relation to implementation of the Federal Government’s MyGov service delivery platform.
36 Advice from the Department of Communities.
A potential solution to this challenge is the adoption of ‘integrated service delivery’, seeking to ensure customers have a seamless interaction with government through a single point of contact, but with mixed modes of engagement (e.g. online, telephone, physical service centres).37

Broadly, there are three main approaches to integrated service delivery:

- a simple triage service that identifies the user’s needs and diverts them to the agency or service they need
- co-location of agencies, enabling customers to find services within one location
- establishing all services within one agency (typically via a service delivery organisation or agency partnerships).38

Outward delivery is typically clustered around types of transactional services (e.g. licensing, fines, appointment bookings) or life events (e.g. births, deaths).

The Canadian Government is widely recognised as a world leader in this area of integrated transactional service delivery. The success of Service Canada is attributed, in part, to making the public sector and not political government responsible for the conception, design and governance structures of service initiatives.39 While political support has been necessary for sustaining momentum, accountable public sector leaders are given space to innovate and drive change.

In addition, sovereign governments in Australia (myGov), United Kingdom (Tell Us Once), New Zealand (iGovt Logon and RealME) and Singapore (SingPass) have relatively mature and high-volume integrated service delivery platforms. At the State level, both the NSW (Service NSW in 2012) and Queensland (One-Stop Shop program in 2013) governments have established integrated service delivery models, while a similar approach is currently being implemented in Victoria.

In WA, the myWA digital services program is currently under development by OGCIO and is expected to be completed by the end of 2019.40 It seeks to provide customers with a single and secure platform for viewing online transactional services (i.e. triage service) and is designed to complement existing front counter services and improve equity of access. However, OGCIO advises that legislative constraints limiting the sharing of data between agencies may affect the impact of this program.41

Integrated service delivery is not without its challenges. A recent review of the drivers underpinning government service integration initiatives noted that “one-stop shop reforms are frequently promoted as win-win solutions allegedly delivering seamless service at lower

40 Advice from the Office of the Government Chief Information Officer.
cost. Such promises are appealing to political decision makers, but typically understate the complexities, costs and risks of the approach”. Factors including unrealistic expectations, agency siloes, inadequate resourcing and a lack of technical expertise can contribute to poor outcomes.

The cost of service integration is another important consideration. In 2016, Service NSW was granted $234 million in capital funding, plus new recurrent funding and budget transfers from other agencies totalling $736 million. However, the NSW Auditor General noted business cases to support funding did not contain robust cost-benefit analysis. Further, ongoing benefits and savings were not being measured.

The extension of integrated service initiatives beyond information and simple transactional matters is also questionable, particularly where client needs are complex.

These issues need to be carefully considered in the design and implementation of a fit-for-purpose, transactional service delivery model. Notwithstanding, integrated service delivery has been proven to deliver improvements in the outcomes of vulnerable populations, cost efficiencies, and greater collaboration between agencies.

Linking and using data

Data is being produced at an ever-increasing rate, given the increased use of multiple media channels by individuals and organisations, advances in digital technologies and the proliferation of internet-connected devices and systems.

The WA Government collects a vast amount of data in delivering services to the community. Connecting pieces of information within and between data sets is an important action for supporting governments and other organisations in research, policy development, decision making, service delivery and evaluation. Noting considerations in relation to confidentiality and security of information, effective linking of data can contribute to better community outcomes.

The WA OAG has identified several areas where a lack of complete data and/or poor data analysis hinders the Government’s overall performance. During the SPR consultation process, stakeholders identified several data issues including a lack of evidence-based service delivery and performance evaluation, a risk-averse approach to sharing data and a

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43 Ibid. p7.
47 This is the subject of a separate review Secretariat background paper.
shortage of public sector employees with data analytics skills and capabilities. Similar issues were also identified in a 2015 review of the Australian public service.49

There are examples of good data linkage practices within the WA public sector. For example, the data linkage branch (DLB) in the Department of Health uses data linkage to enable analysis of evolving trends – such as in communicable diseases – with the findings informing policy, programs and service delivery. The DLB is recognised as one of the leading data linkage units in Australia.50

A data linkage review commissioned by the Government in 2016 identified a need to expand data linkage beyond health to include other sectors such as disability services, justice and corrections as well as training and education.51

In the 2017-18 State Budget, $850,000 was allocated towards development of a new Justice Pipeline Model to estimate the downstream impact of policy initiatives and future trends and demands on the justice system. The data model will capture the flow of activities and costs throughout the justice sector, from police through to the courts and corrective services. It also seeks to map the effect on the court and prison systems after a sudden increase in the number of police prosecutions, a rise or fall in the rate of people sentenced to jail, or an increase in the number of judges on time to trial in specific courts.52

In this respect, the secretariat notes the OGCIO is currently trialling a data classification framework with some government agencies. Additionally, the OGCIO is the Government’s representative on key data committees, including Council of Australian Governments, Productivity Commission-based committees and the National Open Data Committee.

Importantly, linking data goes beyond the WA public sector. The following case study highlights the importance of treating government data as a public asset and the potential value that can come from improving data sharing across and beyond traditional sector boundaries.


Case Study – Western Australian Biodiversity Science Institute (WABSI)

ISSUE
The cumulative biodiversity research within WA is significant. About 700 individual biodiversity surveys are carried out each year at a cost of more than $38 million. While a large amount of high-value biodiversity data is being produced through research and regulatory processes, the data is not being used for multiple purposes and is not readily available. There are significant benefits to the State of a larger, more effective and coordinated approach to acquiring and interpreting knowledge related to biodiversity.

ACTION
WABSI was established in 2015 with Government funding to better utilise biodiversity data in the public interest. It brings together government, industry and research agencies to collaboratively develop policy frameworks and to invest in supporting infrastructure and information technology. The institute is currently building an information management system in which biodiversity data can be easily found, is openly accessible and can be used for multiple applications.

OUTCOME
WABSI is unlocking the valuable information collected in biodiversity surveys to create an integrated and accessible scientific knowledge base. The work of WABSI will enable more informed decision making about the environment, enhance the work already being done in biodiversity conservation and result in significant cost savings for government and industry.

Many State governments (table 1) have established dedicated data analytics functions to facilitate data sharing and to inform whole-of-government decision making. Several stakeholders suggested to the Review that the WA public sector take a similar approach.

Table 1. Data Analytics Units in Other Jurisdictions

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<thead>
<tr>
<th>Jurisdiction</th>
<th>Unit</th>
</tr>
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<tbody>
<tr>
<td>New South Wales</td>
<td>Data Analytics Centre (Department of Finance, Services and Innovation)</td>
</tr>
<tr>
<td>Victoria</td>
<td>Centre for Data Insights (Department of Premier and Cabinet)</td>
</tr>
<tr>
<td>Queensland</td>
<td>Government Statistician’s Office (Department of Treasury)</td>
</tr>
<tr>
<td>South Australia</td>
<td>Office of Data Analytics (Department of the Premier and Cabinet)</td>
</tr>
</tbody>
</table>

A proper cost-benefit analysis needs to be conducted before pursuing such an intervention. Factors for consideration should include the total cost of establishing a unit, accessibility of data, skill capability requirements, public trust and the independence of advice.
Cyber security

Cyber security has become a major issue for governments globally. In 2016, 59 per cent of organisations in Australia and Asia detected a business-interrupting security breach on “at least a monthly basis”, double that of 2015. In the 18 months to 30 June 2016, the Australian Signals Directorate responded to 1,095 Commonwealth Government system cyber security incidents “serious enough to warrant operational responses”.53

The WA public sector is not immune to this risk. Following a ransomware incident in June 2017, for example, it was reported that several government agencies had experienced a multitude of cyber attacks between March and May in that year.54 A 2016 OAG report into malware attacks noted that the Government had “no whole-of-government view of the threats faced”.55 A separate 2017 OAG audit of information systems found several weaknesses in basic agency practices such as poor password management and unpatched systems.56

In response to these issues, and as recommended by OAG, in June 2017 the Government launched a revised digital security policy developed by OGCIO.57 The policy is specifically focused on agency compliance requirements related to:

- implementing security management systems
- establishing governance and accountability
- having appropriate processes for assessing and treating security risks
- ensuring digital security arrangements include formal mechanisms for continuous improvement.58

At the time of writing, it is not clear whether the Government intends to initiate further actions in relation to cyber security. The Review notes that the Queensland Government has a dedicated cyber security unit, while NSW and SA have established whole-of-government chief information security officer positions.

Options for reform

In the context of increased community expectation, budgetary constraint and public sector renewal, the Government must make digital transformation a priority. This requires finding an appropriate way forward in respect of ICT leadership, priorities, resource allocation and capability.

The Review notes that the total 2017-18 appropriation for the OGCIO is $9.2 million, comprised of recurrent appropriation of $3.4 million and administered grants (ICT renewal and reform fund) of $5.8 million. The GCIO currently comprises 19 FTEs with employee benefits expense estimated to cost $7.9 million in 2017-18. The Department of Treasury will need to be consulted in relation to costings should any of the following options be pursued.

**Establish an appropriate functional leadership model**

The review notes OGCIO “will cease operations on 30 June 2018, pending a decision as part of the 2018-19 budget process”. This raises specific questions in relation to the completion of current ICT initiatives under Digital WA and digital transformation more generally.

Going forward, it is evident that several digital-related areas require attention and leadership, including ICT procurement, maturation and standardisation of agency ICT systems, integration of government agency websites and/or transactional service delivery, cyber security, data linkage and analytics, and workforce ICT capability.

In this context, immediate consideration should be given to the establishment of a functional leadership role accountable for driving specific aspects of the Government’s digital transformation agenda.

While allocating responsibility for all these areas to a single functional leader may be desirable from the perspective of accountability and consistency, such a mandate would require significant resourcing and capability not currently available to the Government.

In considering different approaches, it is apparent that some agencies have the necessary expertise to drive a collaborative and coordinated approach to digital transformation.

The Department of Finance is already responsible for leading a whole-of-government approach to procurement that “efficiently meets the business needs of agencies and manages risk”. This remit could be expanded to include direct accountability for major ICT procurement, working with agencies to understand shared and individual needs and delivering better purchasing outcomes.

Consistent with prescribed functions under section 21A of the *Public Sector Management Act 1994* (WA), the Public Sector Commissioner has made initial progress in developing an ICT employee capability framework. This remit could include the development of strategies for attracting the right ICT talent from the private sector and other jurisdictions.

60 Ibid. p685.
In terms of priorities, the initial mandate of an ICT functional leader could include standardisation of agency ICT systems (working in collaboration with the Department of Finance), realisation of a fit-for-purpose integrated transactional service delivery, data linkage and a focus on cyber security. Further functions could be added on a needs basis, noting the cost implications of a broader remit.

Whatever the configuration, an appropriate structure, resources and robust reporting framework will be required to ensure the functional leader can deliver government objectives. DPC will also need to provide a coordination role given the number of lead agencies envisaged under this option.

In April 2017, the Government established a ministerial portfolio in relation to Innovation and ICT. The Minister is supported by the newly formed Department of Jobs, Tourism, Science and Innovation. This could be an appropriate location for an ICT functional leadership role within the current machinery of government. Depending on the ICT issues for which it will be responsible and the required mandate, other potential locations include:

- a sub-department of the Department of the Finance (akin to the OGCIO)
- a sub-department of the Department of the Premier and Cabinet
- a standalone entity reporting directly to the Minister for Innovation and ICT.

It is noted that the Government’s current preference is to improve efficiency and collaboration by reducing the number of government entities.64

**Issue a revised government ICT strategy**

The Digital WA strategy will need revision to ensure coherency for stakeholders; particularly in relation to clarity of objectives, specific initiatives to be pursued (with a focus on end-user needs), allocation of responsibilities for implementation, and clearly articulated measures related to progress and effectiveness.

It is likely that DPC will need to coordinate this revision in collaboration with the proposed different ICT lead agencies.

**Integration of transactional service delivery**

The integration of public sector transactional services, beyond the current website-based triage approach envisaged under Digital WA, should be pursued in a systematic manner that is fit for purpose in the WA context.

This first requires a robust analysis of customer needs, examination of existing and potential government transactional services and an objective cost-benefit analysis of different integration options. The Review understands that such an evaluation is yet to be properly conducted.

The fact that WA has made only preliminary steps towards online service delivery (via the myWA digital services program) puts the State in a good position to learn from other jurisdictions’ experiences and leverage existing intellectual property should it choose to pursue this avenue.

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References


