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Chair

Cabinet Government Administration and Expenditure Review Committee

Expectations for Digital, Data and ICT Investments in Budget 2019 and Beyond

Proposal

1. This paper describes work to improve investment in government digital, data and Information and Communications Technology (ICT), including the use of investment principles to assess digital, data and ICT initiatives in Budget 2019 and the intention to apply these principles to future investment.

Executive Summary

- 2. In mid-2018 the Minister for Government Digital Services agreed to work with me to develop an all-of-government system view of ICT spending, including bids for new projects and upgrades in the pipeline, to ensure any future ICT investment is targeted, efficient and value for money.
- 3. Under our joint direction, the Government Chief Digital Officer (GCDO), the Government Chief Digital Steward (GCDS) and the Treasury have led the development of a set of investment principles. The investment principles were developed with the input of agency experts and stakeholders, endorsed by the public sector chief executives in the Digital Government Leadership Group¹ (DGLG) and were sent to all departmental chief executives in December 2018.
- 4. The investment principles are currently being applied in Budget 2019 by the GCDO and GCDS to provide advice on relevant initiatives to inform the Treasury's advice to Cabinet Committees and Budget Ministers. Alongside this, the DGLG will provide system-level advice about these initiatives. I am seeking Cabinet's endorsement to use the investment principles to assess relevant Budget 2019 initiatives.

¹ Comprises the chief executives of the Ministry of Transport, Inland Revenue, Ministry of Social Development, Ministry of Business, Innovation and Employment, Department of Internal Affairs, Statistics New Zealand, Social Investment Agency, Ministry of Education, Government Communications Security Bureau, Land Information New Zealand and Ministry of Health and one independent advisor.

5. The expectation is that the principles will evolve over the coming years and be applied both to existing baseline and to new budget investment, resulting in more coordinated and efficient investment.

Background

- 6. In the Budget 2018 process, duplication and lack of coordination in ICT bids suggested that agencies were not working together to invest efficiently. To help address this issue for Budget 2019 and beyond, the Minister for Government Digital Services agreed to work with me to develop an all-of-government system overview of digital, data and ICT spending to ensure any future investment in these areas is targeted, efficient and value for money.
- 7 [33]

Budget 2019 – Approach Based on Investment Principles

- 8. Under the direction of the Minister for Government Digital Service and me, the Treasury, the GCDO (within the Department of Internal Affairs) and the GCDS (within Stats NZ) are working together to ensure investment in digital, data and ICT is better coordinated and takes an all-of-government perspective.
- 9. To coordinate Budget 2019 investment in digital, data and ICT; the GCDO and GCDS have worked with financial, data and information system leaders and stakeholders to develop investment principles that can help inform the Treasury's Budget initiative assessment process and subsequent advice to inform Cabinet Committees' and Budget Ministers' decision-making. The chief executives on the DGLG have endorsed the investment principles. In December 2018, the Treasury sent the investment principles to all Public Service chief executives (refer to Appendix 1) and encouraged agencies to engage with GCDO and GCDS on relevant initiatives.
- 10. A relevant digital, data and ICT initiative is defined as fitting into one of the following categories (with selected elements/examples):
 - a. Back Office corporate systems including payroll, finance
 - b. Digital Foundations core infrastructure and network

² Based on data collected from 44 government agencies on their current and planned investment in ICT, covering 2018/19 and the next three financial years.

- Information and Data services includes data for decision-making, policy, and service design and delivery; data for innovation; and safeguards and protections around data
- d. Service Delivery core business systems, e.g. case management
- e. Specialist highly specialised functions for example medical scanners.
- 11. An overview of the investment principles for data, digital and ICT initiatives is provided below (with the longer description sent to departments attached in Appendix 1):
 - a. Back office prioritised if new investment adopts the common process model developed by Inland Revenue as part of the Government's investment in their business transformation programme.
 - Digital foundations prioritised if the new investment (including capital) is supported by multiple agencies to create system enablers, or the new ICT infrastructure investment is for all-of-government common capabilities or cloud based infrastructure services.
 - c. Information and data services prioritised if they align with the Data Strategy and Roadmap for New Zealand and the priorities³ set for the year ahead. Specifically, bids are prioritised if they focus on meaningful data for decision-making, strengthening safeguards and protections for New Zealanders' data, transparent and open data practices, the design of data for reuse, and data leadership and stewardship.
 - d. Service Delivery prioritised if the new investment prioritises the use of Application Programming Interfaces (APIs) for information sharing and process automation across new system investment, as well as opening up data from legacy systems; the new investment uses innovation and design thinking to solve complex problems; and follows four specific design requirements (i.e. cloud based, prototyping, co-design and use of accepted government design standards).
 - e. Legacy systems it is recommended that investments that extend legacy business and operating models are not prioritised (except for critical systems that require investment to prevent system failure or loss of service delivery).

Budget 2019 – Process for Applying the Investment Principles

12. As the principles were finalised in December, they were developed in parallel to agencies developing their Budget 2019 initiatives. Their integration into Budget 2019 has been assisted by the wide range of agencies involved in their

³ Provided to GOV Cabinet Committee [GOV-18-MIN-0082 refers], and included in the GCDS's Strategic Case for a strong data system.

development. The principles also align to the existing Government ICT Strategy while strengthening some aspects. The data element builds from the current Data Investment Framework, ensuring consistency. I am seeking Cabinet's endorsement to use the investment principles to help in assessing relevant initiatives in Budget 2019.

- 13. The GCDO and GCDS are currently applying the investment principles to all digital, data and ICT related initiatives submitted for Budget 2019 and will provide advice to both the Treasury and the DGLG on whether proposals should be prioritised, prioritised with certain conditions or not prioritised. The GCDO and GCDS will also assess whether the initiatives are investment-ready and assess any technical aspects of relevant initiatives, such as implementation risks, fit with system directions, and technological matters.
- 14. This advice will feed into the Treasury's overall assessments of initiatives that will form the basis of initial Budget advice to Cabinet Committees and Budget Ministers in March 2019. The DGLG will also provide advice to feed into a paper to this Committee discussing key themes and issues relating to digital, data and ICT initiatives in March 2019, as part of its consideration of wider capability and system issues coming through in Budget 2019. This system perspective will complement the priority and portfolio-based focus of Budget advice considered through other Cabinet Committees, as Budget packages are developed in March and April 2019.

Next steps

- 15. Budget 2019 is an initial step in the development and application of the investment principles and they will continue to evolve over the next few years to align with the emerging Government Digital Strategy and the New Zealand Data Strategy and Roadmap.
- 16. The expectation is that agencies will take an all-of-government approach when considering investment in digital, data and ICT, for both new Budget investments and baseline expenditure.

Consultation

17. The Treasury prepared this paper and consulted the GCDO and GCDS. The investment principles were developed by officials from GCDO, GCDS, the Ministry of Education, Customs New Zealand, Inland Revenue, the Ministry of Social Development and the Treasury. The investment principles were endorsed by the Digital Government Leadership Group, which is comprised of the chief executives of the Ministry of Transport, Inland Revenue, Ministry of Social Development, Ministry of Business, Innovation and Employment, Department of Internal Affairs, Stats NZ, Ministry of Education, Social Investment Agency, Government Communications Security Bureau, Land Information New Zealand and Ministry of Health.

18. In addition, the information in Appendix 1 has been shared with all agencies as part of the communication to support the Budget 2019 process.

Financial Implications

19. There are no direct fiscal implications arising from this paper.

Human Rights

20. There are no human rights implications arising from this paper.

Legislative Implications

21. There are no legislative implications arising from this paper.

Regulatory Impact Analysis

22. A Regulatory Impact Statement is not required.

Gender Implications

23. There are no gender implications arising from this paper.

Disability Perspective

24. There are no disability implications arising from this paper.

Publicity

25. I propose to release this Cabinet paper on the Treasury's website as part of the Budget 2019 proactive release in mid-2019.

Recommendations

- 26. The Minister of Finance recommends that the Cabinet Government Administration and Expenditure Review Committee:
 - 1 [33]
 - 2 note the intention to seek better coordination and efficiencies in the investment in government digital, data and ICT by applying a set of investment principles developed by the Government Chief Digital Officer (GCDO) and Government Chief Data Steward (GCDS) in consultation with the Treasury and other agencies, and endorsed by the Digital Government Leadership Group (DGLG).
 - assessment of relevant Budget 2019 initiatives.
 - 4 **note** departments were informed of the investment principles and their application in Budget 2019 in December 2018.
 - note GOV will be asked to consider a paper discussing key themes and issues related to digital, data and ICT Budget initiatives in March 2019, as part of its consideration of wider capability and system issues coming through in Budget 2019.
 - note the intention to build on these investment principles through the GCDO's development of the Government Digital Strategy and the work of the GCDS in stewarding the data system towards the New Zealand Data Strategy and Roadmap.
 - 7 **note** the expectation that the investment principles apply to agencies beyond the Budget 2019 process for new and existing funding, as part of a move to a more coordinated all-of-government approach.

Hon Grant	Robertson
Minister of	Finance

Date:

Appendix 1 – Information sheet provided to agencies

Digital and Data Budget Initiatives

What is an ICT/digital initiative?

For the purposes of Budget 2019, ICT and digital bids are ones which fall into the following categories:

- 1. **Back Office:** corporate systems including payroll, financial management information system (FMIS), human resource Information system (HRIS), enterprise resource planning (ERPs), and other corporate systems for internal communications and intranets.
- 2. **Digital Foundations:** core ICT infrastructure and network, end user computing, and identity and access management services, e.g. infrastructure as a service.
- 3. **Information and Data Services:** business intelligence, data warehouse, enterprise content management, and other data and information systems.
- 4. **Service Delivery:** organisations' core systems for customer relationship management, case management, and their lines of business. E.g. the Passports and Courts Management Systems.
- 5. **Specialist**: the systems that only perform single highly specialised functions that cannot be re-used for other purposes. This includes software operating specialised pieces of hardware like medical equipment or x-ray scanners.

What is a data related initiative?

Any budget initiative which has a significant data component, looks to share data, provides data related insights, relies on data for innovation, has an information management element, or looks to consider the ethics and/or trust and confidence elements of using data.

Examples may include:

- 1. Data sharing and exchange: initiatives to improve infrastructure for the sharing and exchange of data.
- 2. Data capability and capacity: initiatives based around data analytics skills to drive new insights and better decisions.
- 3. System settings: settings to determine who can use what data, and when.
- 4. *Using data:* analytics and insights platforms to aid in decision-making, delivering joined-up services; innovation, policy, or measuring progress.
- 5. New data: identifying and creating new data sources, or improving the quality of data.
- 6. *Trust and confidence:* strengthening protections for individuals about how their data is used

Assistance

For ICT/Digital initiatives you can get in touch with your GCDO Investment lead.

The Government Chief Data Steward's System Policy team are available to assist with data related bids.

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Investment Principles for Digital and Data Initiatives

The following investment principles will be used by the Digital Government Leadership Group to provide advice on how these initiatives should be prioritised, sequenced and/or coordinated.

Budget bids for new back office systems should be prioritised if:

 New investment adopts the common process model developed by Inland Revenue as part of government's investment in their business transformation programme.

[33] [38]

[33]

[38]

Exceptions to this are for medium to small agencies that are not materially impacted by the Holidays Act, and are implementing a cloud-based or as-a-service payroll solution.

Budget bids for digital foundations, e.g. system enablers (digital identity, New Zealand Business Number) and ICT infrastructure (including telecommunications, servers, and networks) should be prioritised if:

- The new investment (including capital), is supported by multiple agencies to create system enablers.
- The new ICT infrastructure investment is for all of government common capabilities or cloud based infrastructure services.

Note: Capital (or asset ownership) investment will only be supported by exception; e.g. the underlying infrastructure to support a key system must be owned by the agency for reasons of national security or critical service delivery.

Budget bids for information and data services should be prioritised if they align with the following priorities:

Analytics for decision-making

- Meaningful measures of progress to inform government decision-making.
- Capability to use data for policy, service-design and decision-making.

Safeguards and protections for New Zealanders

- Consistent data practices to maintain trust and confidence, ensure privacy is protected, and to foster the ethical use of data.
- Appropriate mechanisms for testing and considering the ethics of, and social license for, new and emerging uses of data.

Transparent and open practices

• Transparency mechanisms for the management and use of data, analytics, algorithms and machine learning.

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Data designed for system reuse

 An efficient and shared process for the collection of common data variables across government.

System leadership

- A common approach to embedding Māori perspectives about data into the way data is managed and used.
- System infrastructure to meet the needs of its users providing access to meet demand and facilitate sharing.

Budget bids for service delivery should be prioritised if:

- The new investment prioritises the use of APIs (application programming interfaces) for information sharing and process automation across new system investment, as well as opening up data from legacy systems.
- The new investment uses innovation and design thinking to solve complex problems, and
 - has utilised identity, data, and digital design standards as published by function leads (GCDO and GCDS).
 - has co-designed solutions, across sectors and clusters¹.
 - o has prototyped solutions that can be scaled around customer centric outcomes.
 - o adopts cloud-based systems.

It is recommended that new investments that extend legacy business and operating models are not prioritised

Exceptions to this are for critical systems that require investment to prevent system failure or loss of service delivery.

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¹ The combination of government agencies, NGOs, and private sector entities, that together creates public value.