Inland Revenue
Te Tari Taake

5 July 2024

[redacted]

Dear [redacted]

Thank you for your request made under the Official Information Act 1982 (OIA), received on 6 June 2024. You requested the following:

1. *Your agency's digital (IT or ICT) strategy*
2. *Your agency's technology strategy (if separate from your digital strategy)*
3. *Your agency's data or information strategy (if separate from your digital strategy)*
4. *A documented report that demonstrates progress on your digital / technology / data strategy implementation.*

Inland Revenue's strategic aspiration is improving oranga for current and future generations. Inland Revenue makes its biggest contribution to oranga through economic activities including collecting and distributing money. Inland Revenue has various mechanisms in place to ensure its strategies align with its aspirations and key responsibilities of efficiency and effectiveness, stewardship, and a broader contribution to New Zealand.

Inland Revenue's business transformation programme (BT) laid the foundation for its digital and data strategies, allowing it to become a digital organisation with a focus on data analytics as a cornerstone of its decision making.

Questions 1 and 2

The following documents outline the strategies underpinning Inland Revenue's approach to the use of digital channels and ICT to support and guide its operations.

Item	Date	Document	Decision
1.	01/05/2024	Channel Strategy	Partially released
2.	01/03/2023	Technology Operating Strategy – Cloud Services	Partially released
3.	26/06/2015	Business Solution Blueprint – Technology and Enterprise Integration	Refused
4.	2014	ICT Strategy & Application Roadmap	Partially released

Question 3

The following documents provide strategic considerations around the use of Artificial Intelligence (AI), primarily generative AI and the foundation on how Inland Revenue looks at data, analytics and intelligence as a driver for its digital organisation.

Item	Date	Document	Decision
5.	29/01/2024	AI Strategic Considerations & Roadmap	Partially released
6.	16/07/2015	Business Solution Blueprint – Intelligence Led	Refused

Question 4

I have identified the following documents in scope of your request.

Item	Date	Document	Decision
7.	10/10/2023	2023 Annual Report	Refused
8.	15/06/2022	Business Transformation Publications	Refused
9.	16/11/2023	Our Strategy	Refused

Information publicly available

Your request for the following documents is refused under section 18(d) of the OIA, as the information is publicly available:

Item	Date	Document	Website address
3.	26/06/2015	Business Solution Blueprint – Technology and Enterprise Integration	Business Solution Blueprint - Technology and Enterprise Integration
6.	16/07/2015	Business Solution Blueprint – Intelligence Led	Business Solution Blueprint - Intelligence Led
7.	19/10/2023	2023 Annual Report	Annual Report (ird.govt.nz)
8.	15/06/2022	Business Transformation Publications	Business Transformation Publications (ird.govt.nz)
9.	16/11/2023	Our Strategy	Our Strategy (ird.govt.nz)

The remaining documents are enclosed, with sensitively labels removed, attached as **Appendix A.**

Information withheld or refused

Where some information in the documents is withheld, the relevant withholding ground of the OIA is specified in the document. An explanation of the withholding grounds follows:

- Section 9(2)(a) – to protect the privacy of natural persons
- Section 9(2)(i) – withholding of the information is necessary to enable Inland Revenue to carry out, without prejudice or disadvantage, commercial activities

As required by section 9(1) of the OIA, I have considered whether the grounds for withholding the information requested is outweighed by the public interest. In this instance, I do not consider that to be the case.

Items 4 and 5 contained information deemed not in scope of your request, this information has not been considered for release.

Right of review

If you disagree with my decision on your OIA request, you can ask an Inland Revenue review officer to review my decision. To ask for an internal review, please email the Commissioner of Inland Revenue at: CommissionersCorrespondence@ird.govt.nz.

Alternatively, under section 28(3) of the OIA, you have the right to ask the Ombudsman to investigate and review my decision. You can contact the office of the Ombudsman by email at: info@ombudsman.parliament.nz.

If you choose to have an internal review, you can still ask the Ombudsman for a review.

Publishing of OIA response

We intend to publish our response to your request on Inland Revenue's website (www.ird.govt.nz) as this information may be of interest to other members of the public. This letter, with your personal details removed, may be published in its entirety. Publishing responses increases the availability of information to the public and is consistent with the OIA's purpose of enabling more effective participation in the making and administration of laws and policies and promoting the accountability of officials.

Thank you for your request.

Yours sincerely

Cate Robertson
Enterprise Leader – Strategic Architecture

Appendix A

Inland Revenue
Te Tari Taake

Executive Level Governance

Channel Strategy Refresh

Strategic and Investment Board

Date: 1 May 2024

Sponsors: Mary Craig, James Grayson

Attendees: Cate Robertson, Brijesh John, Souradeep Gupta

Purpose and Background

- Channel Strategy is a key enabling business strategy under Our Strategy. It provides directional statements for Inland Revenue (IR)'s channel management and related investments and directly supports other related strategies such as Customers and Products.
- Our channel strategy provides the vision, principles and recommendations based on current state assessment along with an integrated roadmap to guide investments in channels (delivered through customer, product and other change initiatives). Put simply, the channel strategy defines or guides which channels should be provided to which customers and for which services and products by best use of our operating model and enablers (technology, intelligence, business processes, policies and initiatives/change programmes).
- A channel is a means by which IR can make its products and services available to the customers. IR currently has around 40 customer channels which play a significant role in the New Zealand economy as a gateway to access tax and social policy products and services. The combination of channels with products and services defines the number of customer interactions we have at IR.
- The previous Channel strategy was completed in 2015 as part Business Transformation (BT) programme. BT has achieved the desired channel shift to digital channels. The current focus is to build on those investments for the future and align to roles from Our Strategy.
- Apart from the BT recommendations, the Channel Strategy initiative has considered refreshed Enterprise and Customer Segment Strategies, ongoing asset management, 'Digital Divide', 'Inclusion', 'Te Ao Māori view' and 'new service models' (e.g. changing role of IR in providing social services) to evaluate the role of each channel.
- Over 80 stakeholders across CCS, ES and ED&I have been consulted to bring a holistic view across IR's channel-related initiatives and ongoing channel management activities. The findings and recommendations have also been socialised with governance groups such as PPG and other forums such as CCS-LT, ES-LT, ED&I-LT and several working groups across the business.

Recommendations

It is recommended that the Board

- **Approves** the Channel Strategy's Vision and Principles (Pages 5,6).
- **Approves** the three (3) sets of prioritised recommendations that are referenced in the summary report (ref: Page 7) to create an aspirational future state for our channels. These are to:

    1. Implement integrated channel management and planning
    2. Improve channel related voice of customer and data
    3. Enable relationships in operating model to improve customer outcomes

- **Notes** that an integrated channel roadmap has been developed and its execution will follow IR's standard governance around prioritisation, risk management, funding, design and implementation decisions.
- **Notes** that the recommendations and roadmap are provided to identify impactful changes in channel settings in the next horizon to ensure channels are efficient and effective, stewardship of channels are maintained, and enable broader contribution as per Our Strategy.
- **Notes** that several of the recommendations are already in progress via various channel and customer related initiatives.
- **Notes** the approach taken for the work undertaken includes integration of best practices, public sector context and broad stakeholder engagement across IR including teams operating channels, segments, products and services, technology, data and customer intelligence.

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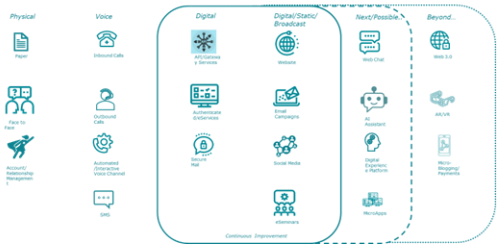
Mary Craig
Deputy Commissioner
Enterprise Design and Integrity
s 9(2)(a)

James Grayson
Deputy Commissioner
Customer & Compliance
Services- Individuals
s 9(2)(a)

Role of Channels in IR Context

1. Customers

2. Channels



3. Products and Services

*A **channel** is a means by which Inland Revenue (IR) can make it **products and services** available to the **customers**. Services includes the provision of information to and from customers. For the purposes of the channel strategy, customers include all IR customer segments, intermediaries, business partners and government or non-government agencies that interact with IR.*

5. Enablers

4. Operating Model/Customer Segments

Channel Vision

“Our vision is to continuously align our channels to a Customer Interaction Model that meets our customers’ preferences rather than what works for us.

With focus on accessibility, trust and agility, we aspire to be responsive stewards, making broader contributions for all stakeholders. We will innovate and integrate our multi-channel approach, ensuring a seamless customer experience and effective and efficient service delivery.”

Channel Principles

Following are a set of **eight guiding principles** for channel management and related investments:

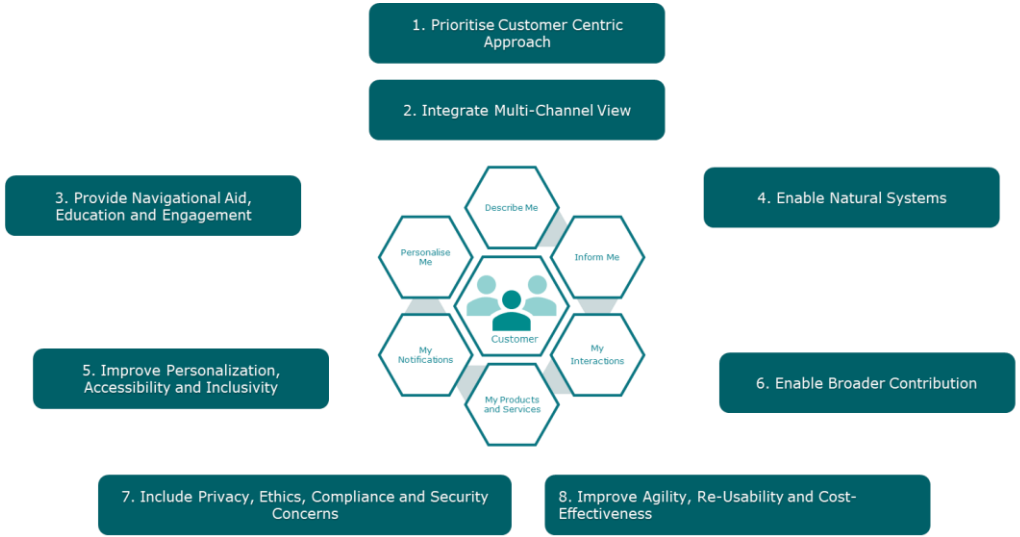
1. Prioritise Customer-Centric Approach
2. Integrate Multi-Channel View
3. Provide Navigational Aid, Education and Engagement
4. Enable Natural Systems
5. Improve Personalization, Accessibility and Inclusivity
6. Enable Broader Contribution
7. Include Privacy, Ethics, Legal and Security concerns
8. Improve Agility, Re-Usability and Cost-Effectiveness

- Directional statements under each principle have been created and provide guidance for initiatives, value streams or programmes of work that are channel related.
- Channel principles and associated directional statements have been mapped in detail to Enterprise Strategy as well as other business segment and sub-strategies approved by SIB previously.
- The implementation of channel principles will be underpinned by Te Pou o te Tangata / How we do things at IR.

Effective and efficient
Doing what we do in the best ways for the best results

Stewardship
Actively making sure that what we're responsible for is fit for purpose today and tomorrow

Broader contribution
Working across the public service to deliver more for Aotearoa New Zealand



Whanaungatanga
We practice whanaungatanga and manaakitanga through collaboration and working in networked ways across IR.

Manaakitanga
We demonstrate manaakitanga by acknowledging peoples' reality and showing care for those around us.

Mahi Tika
When we do the right thing and strive to get the best outcome for our customers, we are practicing Mahi Tika

Top 20 Recommendations

			1. Planning	2. Data	3. Relationships
Strategic Intent	1	Consider Channel Vision and Principles to guide investments made for IR's channels	★	★	★
	2	Adopt a Value Stream/Programme approach for Channel related investments aligned with Channel Principles	★		
	3	Realign existing capability to create Customer Interaction Model to guide both Channel Management and Channel related investments	★	★	★
	4	Consider Channel Fit /Evolution as part of Enterprise Asset Management	★		
	5	Develop API/Gateway service as a strategic "Channel of Channels" by improving interoperability, sustainability and agility		★	
	6	Ensure there is no "Locked up data" in a particular channel by improving interoperability and digital enablement		★	
	7	Consider Customer Preferences rather than what works for us as priority for designing channels	★	★	★
	8	Adopt digital and data technologies such as Artificial Intelligence (AI), Cloud Technologies, etc. to improve personalised services, efficiencies and effectiveness with appropriate guardrails to ensure responsible, trustworthy and ethical use	★		
Operating Model	9	Consider business segment roles and responsibilities for channel related data products		★	★
	10	Consider digital enablement of physical and people channels		★	★
	11	Enforce multi-channel thinking for governance processes			★
	12	Missing roles and responsibilities should be looked at an enterprise level operating model review activity			★
	13	Consider specific Channels Products and Services as part of Customer Voice to make insights actionable. Define success criteria with stakeholders for what good looks like.		★	★
	14	Ensure digitally enabled multi-channel approach as part of new initiatives to cover all customer segments		★	★
	15	Ensure "System of Insight"(Analytics) has relevant customer channel related data from "Systems of Records" i.e. core IT systems		★	★
	16	Ensure integrated planning is done for channel related investments via a common enterprise roadmap	★		★
	17	Channel management as a discipline should be implemented at a strategic level. It should be implemented together with product and service management to realise benefits while maximising existing workforce input	★		★
Quick Wins	18	Channel, Product and Services Catalogue should be kept up to date	★		
	19	Consider Channels in Initiative Management Lifecycle processes	★		
	20	Ensure Content is consistent across channels but also fit for purpose for that channel. Consider of role of channels to guide appropriate content management			★

Next Steps

The initiative will

- Identify owners and initiatives to deliver the top 20 recommendations
- Develop Customer Interaction Model for prioritised customer segments

Reference

Channel Strategy- Summary Pack

Channel Strategy-Detailed Pack

Channel Strategy-Current State and Plan

Channel Strategy Refresh- Initiative Concept - SIGNED

Integrated Channel Roadmap (JIRA)

Inland Revenue
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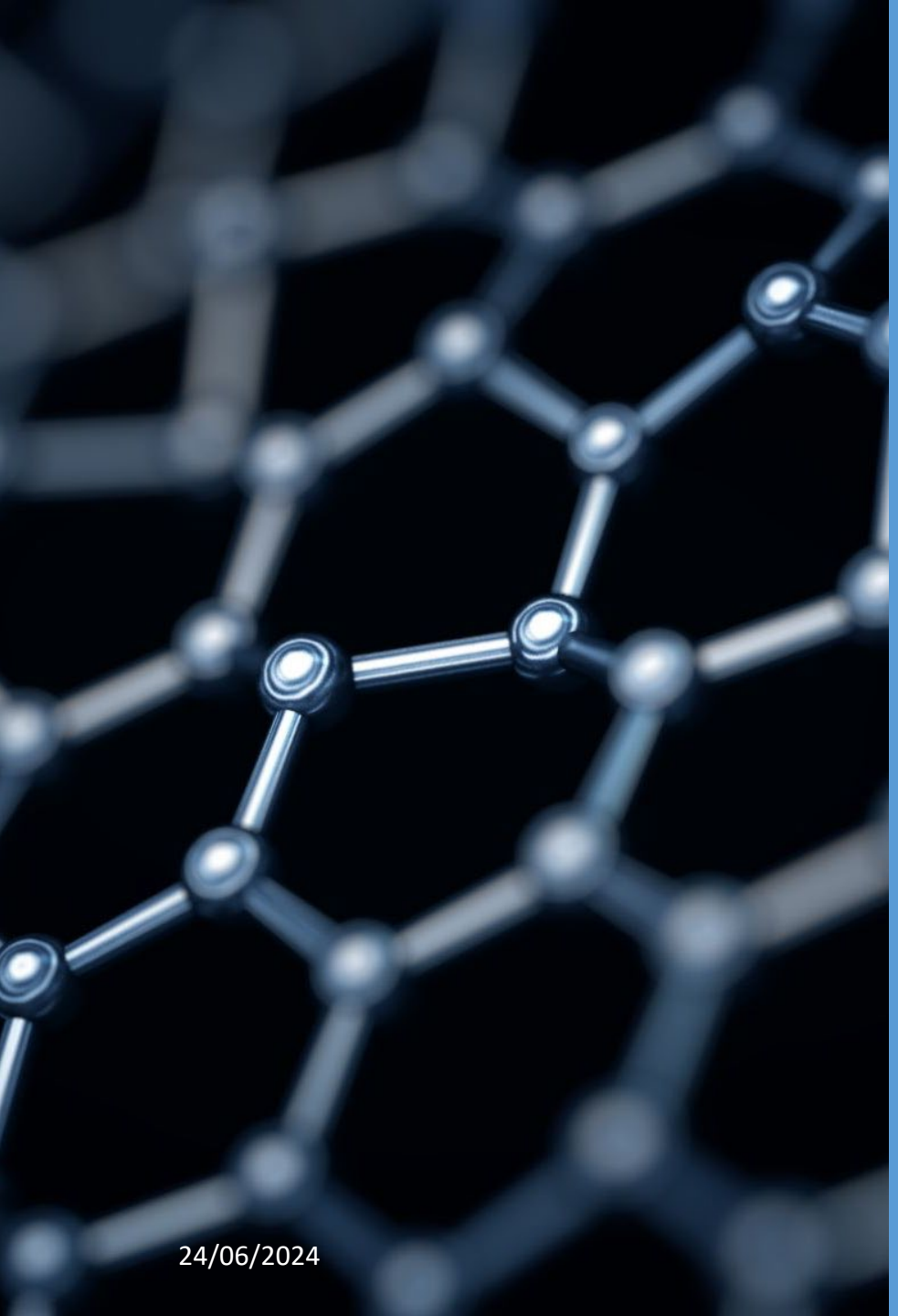
Te Tari Taake

Technology Operating Strategy- Cloud Services (2022)

Brijesh John

Strategic Architecture



Contents

Purpose

Purpose of the document – clarity on what guidance it will provide

Context

Cloud services context at Inland Revenue – The current state

Vision

Inland Revenue's vision for cloud services

Operating Strategy

Key facets of Inland Revenue's strategy for operating in the cloud environment

Goals and Benefits

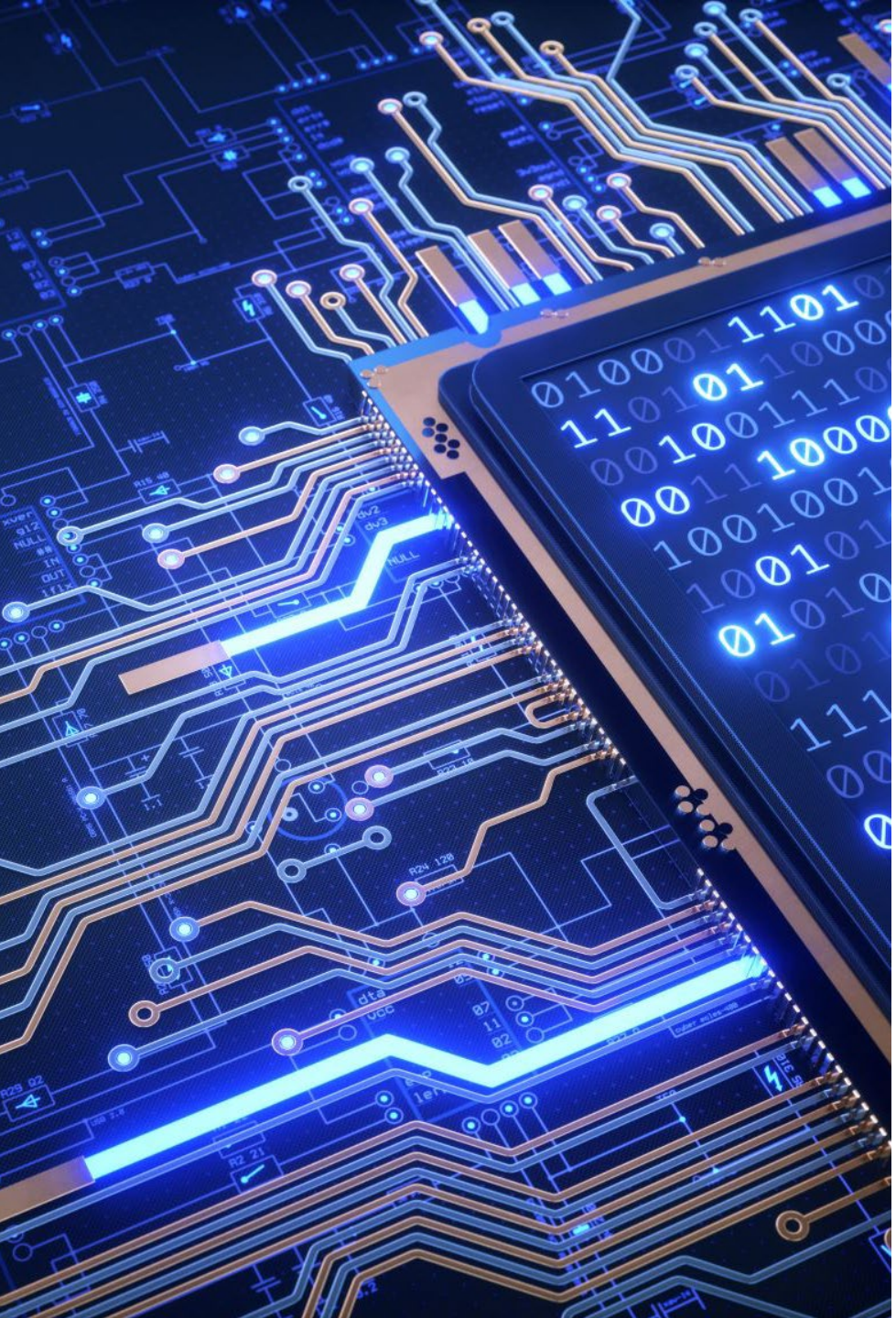
Inland Revenue's expectations from cloud services

Principles

Cloud services operating principles

Roadmap

High Level Roadmap/ Calendar 2022-2024.



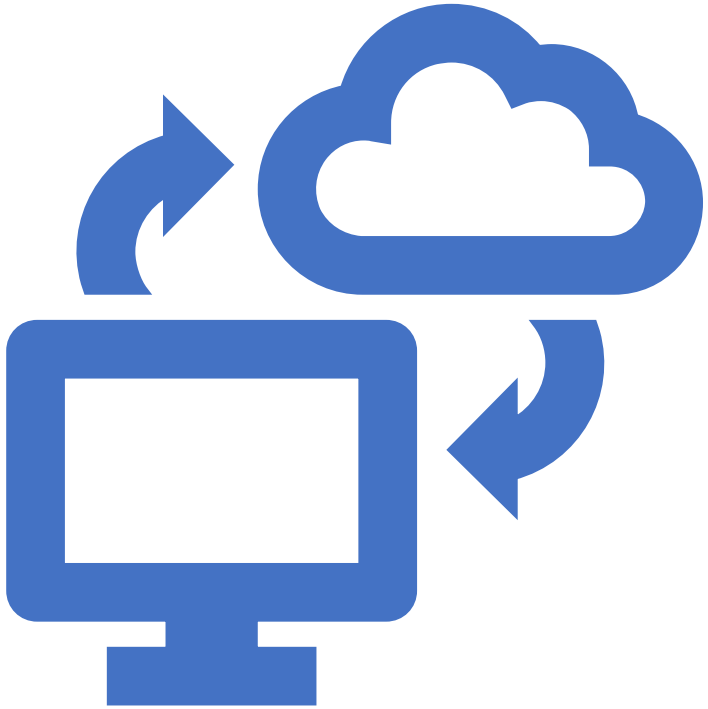
Purpose of the document

The intent of the document is to provide strategic guidance on the continued use of cloud services to meet Inland Revenue's business outcomes. The document will provide a clear vision, principles and a high-level roadmap aligned to the vision.

The document is a living document and is expected to be read in conjunction with other IR strategies and roadmaps.

Technology roadmaps associated with this document include

- IR Network Roadmap
- Tax and Social Policy Technology Roadmap
- IR Technology Roadmap for Security
- IR Cloud Roadmaps

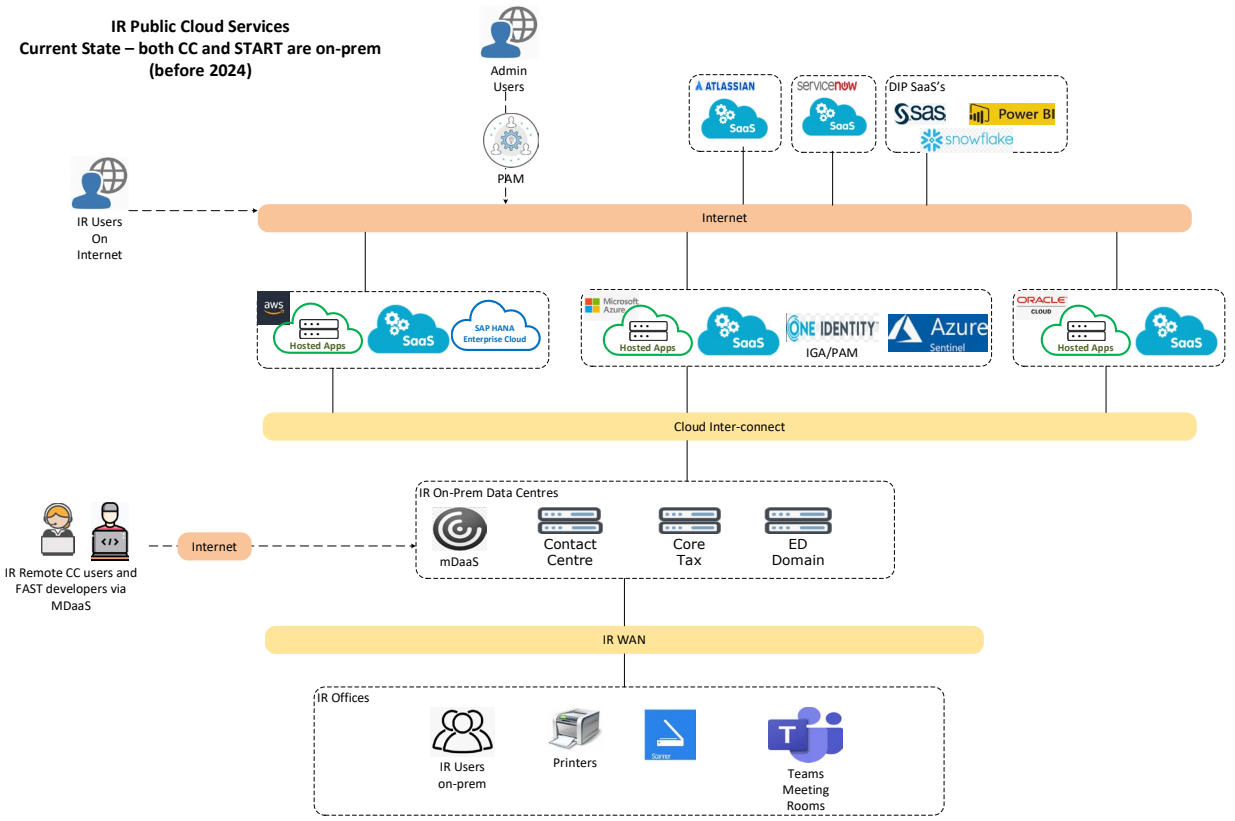


Cloud services context at IR

- IR’s cloud services journey is well-developed and mature
- The investment that IR has made as part of the Business Transformation Programme has seen very high uptake and utilization of cloud services as part of transformation delivery
- IR’s strategy has been one of utilizing cloud as part of a managed services model
- IR’s cloud investments are split across various Cloud Service Providers (CSPs) and supported by several Managed Service Providers (MSPs)
- Some cloud investments are supported by internal IR Teams. For e.g., Workplace Technology Services (WTS), SecOps
- IR’s environment is Multicloud – with no dependency on any IR Managed Datacenters

The IR environment

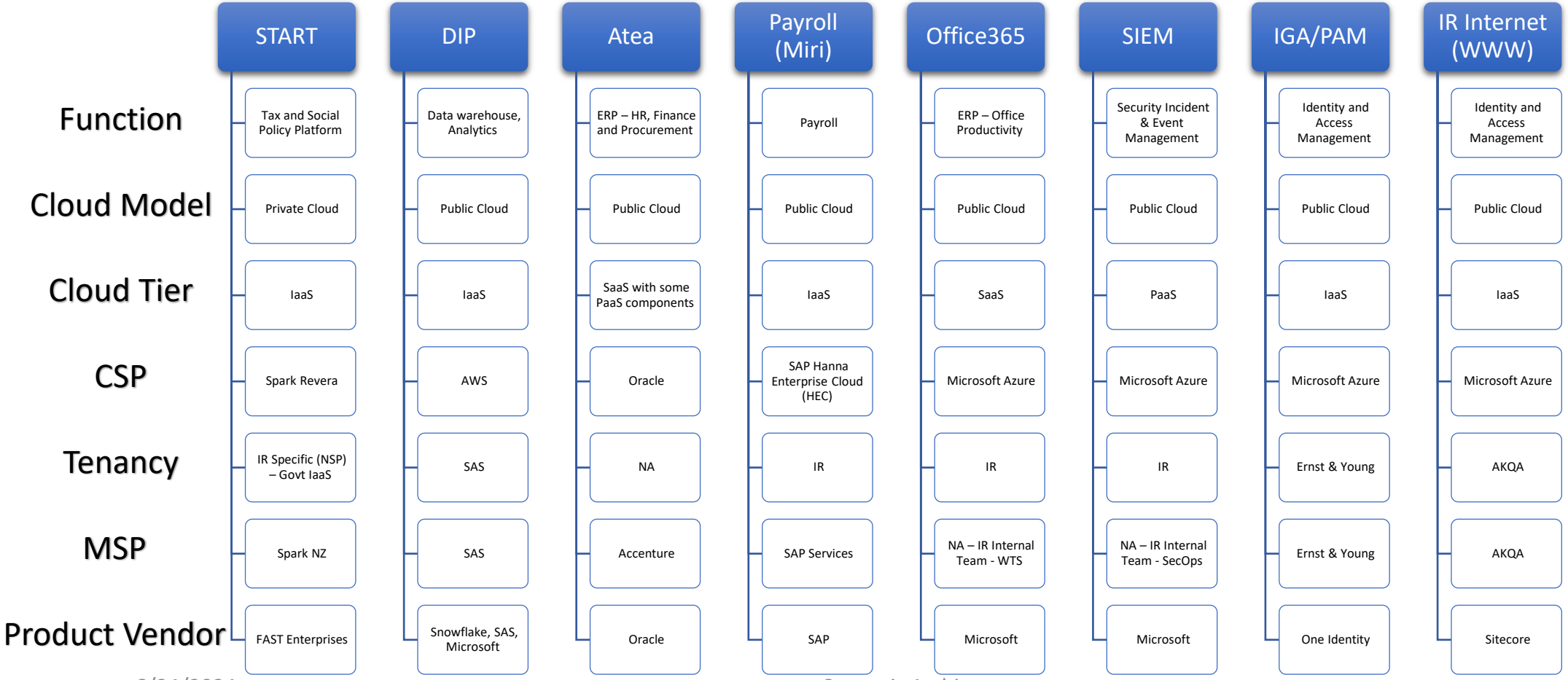
- Multi-cloud with some private cloud investment.
- All our corporate apps are either cloud hosted or SaaS in cloud.
- AWS, Azure, Oracle and Atlassian cloud services are adopted.
- Contact Centre is currently being transitioned to Public Cloud, but the Core Tax and Corporate ED Domain are still hosted in private cloud (NSP – Revera).
- We are currently looking at setting up an initiative to move our NSP investments to public cloud
- User access from Internet via the Cloud Public Network Segments to SaaS and cloud-published Apps has security controls such as Azure SSO, CDA and MFA. This type of user access is Zero trust complaint.
- External facing and App-to-App public API's based communications are via the Cloud Public Network Segments.



A snapshot of IR's Multicloud environment

PLATFORM/ SYSTEM	CLOUD/ LOCATION	FUNCTION	CLOUD OPS MODEL	CLOUD SERVICE PROVIDERS (CSPS)	MANAGED SERVICE PROVIDERS (MSPS) – AND IR TEAMS
START	Private Cloud Revera DC (NZ)	Core Tax and Social Policy System	Managed Service - IaaS	Spark - Revera	Spark NZ, FAST
Genesys Engage	Private Cloud Revera DC (NZ)	Contact Centre	Managed Service – IaaS	Spark - Revera	Vodafone
DIP	Public Cloud AWS (Sydney)	Data Warehousing and Analytics Platform	Managed Service - IaaS	AWS	SAS, CEDA (internal), STS (internal)
Atea	Public Cloud Oracle Cloud Platform (Sydney)	HR, Finance and Procurement Platform	Managed Service – SaaS with PaaS components	Oracle	Accenture
SAP Payroll (Miri)	Public Cloud – SAP Hanna Enterprise Cloud (HEC) (Sydney)	Payroll Platform	Managed Service – IaaS	SAP	SAP Services
One Identity (Manager and Safeguard)	Public Cloud Azure (Sydney)	IGA and PAM	Managed Service - IaaS	Microsoft	Ernst and Young
Office 365	Public Cloud Azure (Sydney)	Office Productivity including Intranet and Document Management	SaaS with internal team support	Microsoft	WTS (internal)
Azure AD	Public Cloud Azure (Sydney)	Corporate Directory Services	SaaS with internal team support	Microsoft	WTS (internal)
SIEM	Public Cloud Azure (Sydney)	Security Incident and Event Management	PaaS with internal team support	Microsoft	SecOps (internal)
ServiceNow	Public Cloud ServiceNow (Sydney)	Service Management, Operational Workflow Management	Managed service – PaaS	SNOW	Deloitte

IR Multicloud Services Continuum



Cloud services at IR - Our Vision

- IR will be a leader in utilizing cloud services technology to provide better and enhanced tax and social policy services to New Zealanders
- To meet the vision, IR will continue to strive to increase it maturity in utilizing cloud services for:
  - Increasing efficiencies in delivering digital services
  - Adopting new and enhanced data and digital services at speed
  - Enabling a platform for AI/ML services for the future
  - Encouraging technology innovation
  - Being a leader across New Zealand Government for cloud services
  - Consuming cloud services that promote sustainability

IR's Technology Operating Strategy (2022) – Focus on Adapt to the Cloud

1. IR has already adopted the cloud as part of the Business Transformation Programme and has a mature Multicloud environment
2. As part of our future Technology Operating Strategy - Cloud will remain the primary and preferred deployment model for all IT workloads.
   - IR's preference is to use public hyperscale clouds to meets its requirements
   - If there are compelling reasons not to use public cloud, IR will manage the exceptions using private cloud / MicroCloud investments.
   - However, as part of our strategy, IR also plans to move our workloads to public hyperscale cloud data centers
   - The hyperscale clouds coming to NZ in the next 2 years will help accelerate our utilization of public cloud
3. IR will continue developing its cloud maturity through working with CSPs and MSPs in adapting to cloud capabilities such as:
   - Use of technologies and processes to ensure solutions are evergreen and adaptive where possible
   - Use of public cloud storage and database capabilities
   - Use of infrastructure as code, auto scale and serverless capabilities where feasible
   - Use of MicroCloud's, IoT and Edge solutions as necessary
   - Use of Zero trust network connectivity via the internet
4. IR will strive to introduce further efficiencies in its selection, cloud architecture and management/operations of its cloud investments
   - Reshape Cloud CoE in line with the strategy
   - Introduce FinOps
   - Redesign operational visibility in line with a new cloud operating model
5. IR will work with CSPs and MSPs to ensure that its investments for cloud services prioritises environmental sustainability
6. IR will establish an operating model and will invest in acquiring and developing the required skills, tools, processes and relationships with CSPs & MSPs to ensure that it is able to drive and take advantage of cloud services innovation
7. IR will establish a cloud governance and compliance framework that can be used to ensure that CSPs and MSPs are delivering the services according to IRs requirements, policies and standards.
8. IR will establish new workloads and move existing workloads to New Zealand hyperscale cloud DCs to meet data sovereignty requirements and to support the local economy

Goals and Benefits

IR has the following goals and expects the following benefits from the utilization of cloud services

1)Faster time to market for new projects and prototypes.
2)Improved customer satisfaction due to increased proximity to our clients and the ability to conduct customer behavior analytics.
3)Increased ability to serve bursts in demand, even when these exceed our provisioned capacity.
4)Faster reactivity to the changes that occur within the marketplace and are outside our control.
5)Increased productivity by shifting our IT personnel away from managing data center toward higher-value tasks.
6)Ability to inspire and support new business initiatives that would be impossible outside of the cloud model (such as AI/ML, IoT and data analytics).
7)Ability to achieve cost savings on infrastructure.
8)Increased transparency on the costs of IT, projects and applications and the ability to relate those to the generated business value.
9)Ability to profit from new technologies as they get released from cloud providers, without having to wait for the next release cycle.
10)Improved availability for our applications, thanks to the more reliable and secure architectures of cloud providers.
11)Enhance our ability to react to scalability requirements without having to manage and forecast our capacity requirements.
12)Ability to better support business continuity requirements through applying geo-redundancy/disaster recovery cloud patterns
13)Ability to utilize cloud native security capabilities through enabling CSPs and MSPs to deliver to IR's requirements
14)Enable solutions that promote environmental sustainability

Technology Operating Principles for the Cloud (pg1)

Cloud Use

Cloud is the preferred and primary deployment model for all IR IT workloads

Public hyperscale clouds are the target deployment platform for IR

If there are compelling reasons not to use public cloud, IR will handle the exceptions using private cloud investments

Cloud Model

IR will continue with the Multicloud Strategy introduced as part of BT

Private cloud investments only as exception in the future

Selecting CSPs

Multicloud strategy enables IR to select best solution independent of CSP selection

Fit for purpose, Fit for use and commercial considerations will drive selection

Increased complexity and maturity of CSP will be considered when adding new CSPs to IR's environment

Environmental Sustainability is a key part of selection

Selecting MSPs

Selection driven by capability and maturity of vendor

Commercial consideration key as part of selection

Ability to meet enterprise NFRs and work in alignment to IR's Strategy

Shared service model in line with service/support offering

Technology Operating Principles for the Cloud (pg2)

Cloud-Tier Decision

IR's Multicloud, Managed service model allows some independence from Cloud Tier decisions

IR's Preference is SaaS > PaaS > IaaS

IR recognizes that SaaS is more probable for commodity offerings, while PaaS and IaaS will be more relevant for specialist offerings for IR

Drive Operational Visibility

Trust but verify model

Enabling cloud ops visibility to let IR understand and make decisions

Establish a Cloud Operations Centre suited for a Multicloud (predominantly public cloud) operating model

Drive Operational Efficiencies

Reshaping CCoE to meet IR's strategy

Establishing best practice based FinOps capability to drive decisions

Creating capability and capacity aligned to the strategy, to meet operational needs

Increasing Adapt Maturity

Focus on increasing utilization of native cloud capabilities

Working with CSPs and MSPs to enable innovation and enhancements born in the cloud

AoG Aligned

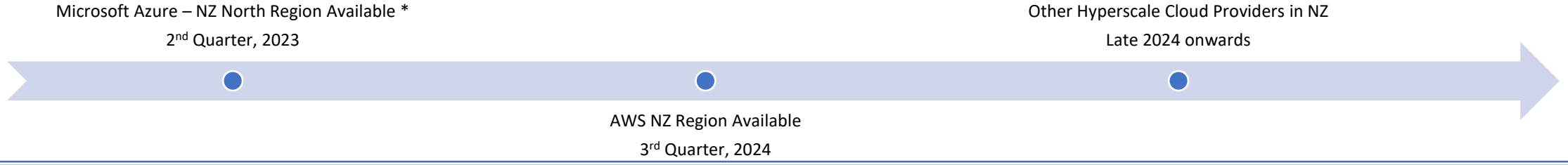
IR will lead and contribute to All-Of-Govt (AoG)cloud strategies and initiatives

Key area IR will look at leading and contributing to will include

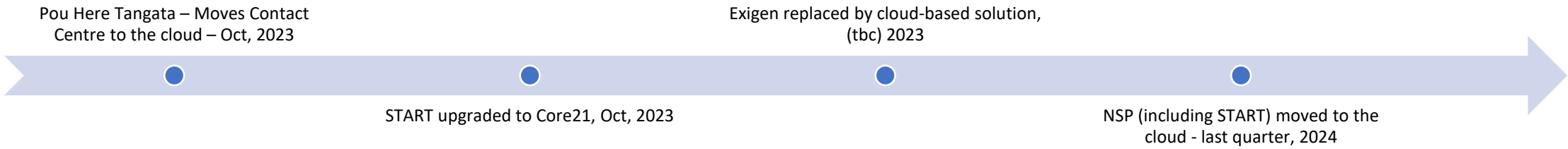
- Environmental sustainability with NZ hyper clouds
- Adapting to the Multicloud environment

High Level Roadmap and Timeline (Indicative)

Relevant External Environment Activities



Known IR Initiatives



CCoE Roadmap

Roadmap items list

While different perspective on a high-level roadmap and an indicative timeline has been documented in the previous page, there are several activities which need further planning before a timeline and associated plans can be established. This page is an attempt at capturing these activities in late 2022.

Activity	Target Date
Agree and Sign-off operating strategy	Dec, 2022
Reshape IR's CCoE, align to strategy	Feb, 2023
Microsoft Azure NZ North Region active*	Apr-May, 2023 (likely)
Exigen moved to cloud solution	2023 (tbc)
Move IR workloads hosted in Microsoft Azure to NZ Region (AoG activity)	2023-2025
Establish technology policies and guardrails necessary for the cloud	Jun-Jul, 2023
Establish IR's Cloud operating model (including FinOps and Cloud Operations Centre)	Jul-Aug, 2023
Decision on CSP (NZ hyperscale cloud) for START and DIP (and other platforms)	Late 2023
Enable utilization and adaptation to cloud native features in discussion with CSPs and MSPs (ongoing activity)	Late 2023
9(2)(i)	

Discussion

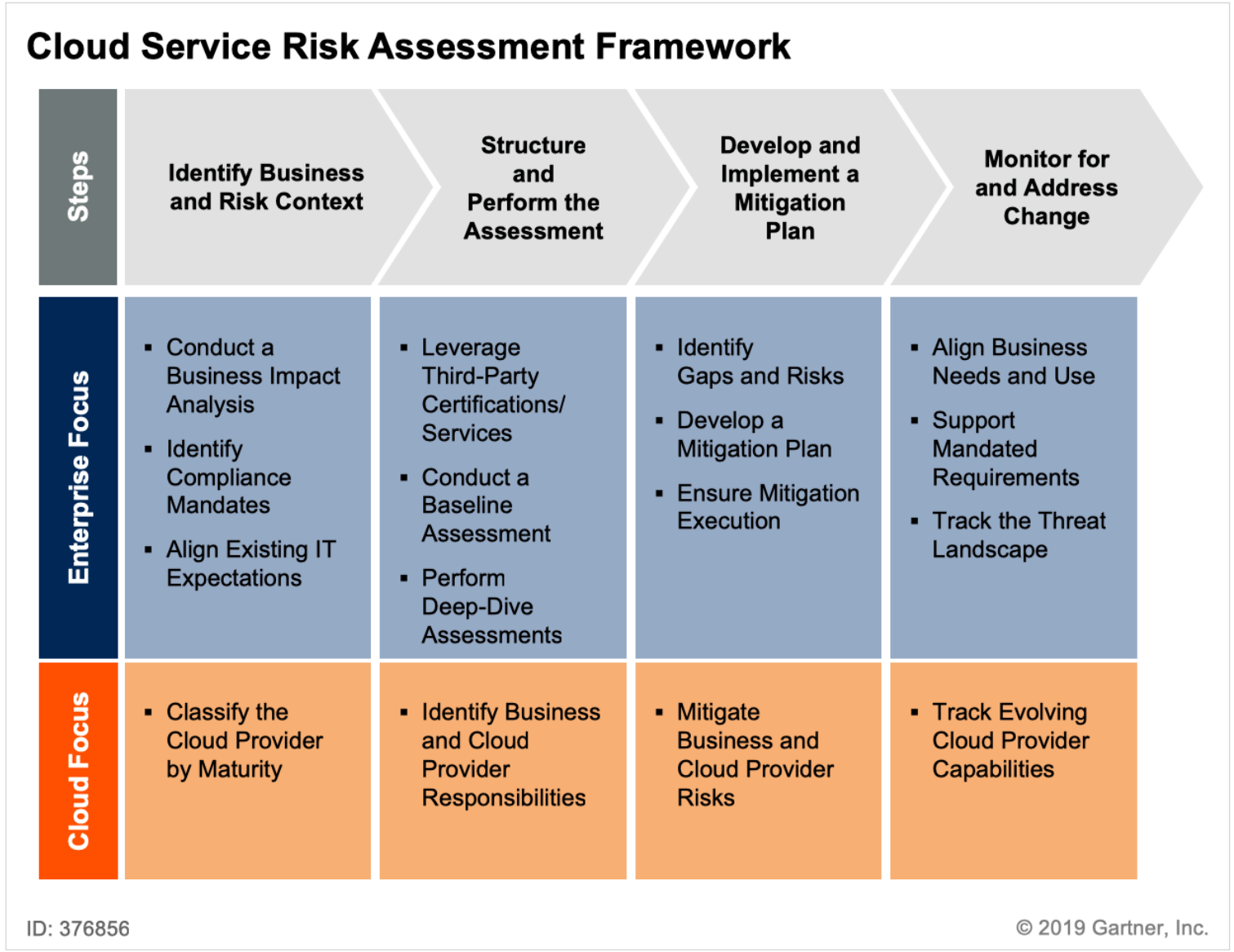
Designation	Name	Date	Signature
Enterprise Leader – Technology Services (CTO)	Malcolm Breadmore		Endorsed
Enterprise Leader – Strategic Architecture	Cate Robertson		Endorsed
Deputy Commissioner, Enterprise Services	Mike Cunnington		
Deputy Commissioner, Enterprise Design and Integrity	Mary Craig		

Sign-Off

Appendix 1: Goals and Applicable Measures

Goal	Metric
Ability to Serve Bursts in Demand	Bursting Hours per Month
Faster Reactivity	Average Application Releases per Month
Faster Time to Market	Average Months from Idea to Working Prototype
Improved Customer Satisfaction	Customer Satisfaction Index
Increased Productivity	Committed Lines of Code per Month
New Business Initiatives	Number of New Business Initiatives
Presence in New Regions	Launched Points of Presence in New Countries
Infrastructure Cost Savings	NZD
Cost Transparency	Number of Workloads With Effective Cost Tracking
Access to New Technologies	Number of New Technologies
Improved Application Availability	% of Annual Availability
Enhanced Scalability	Time to Obtain New Infrastructure Capacity From the Demand Trigger

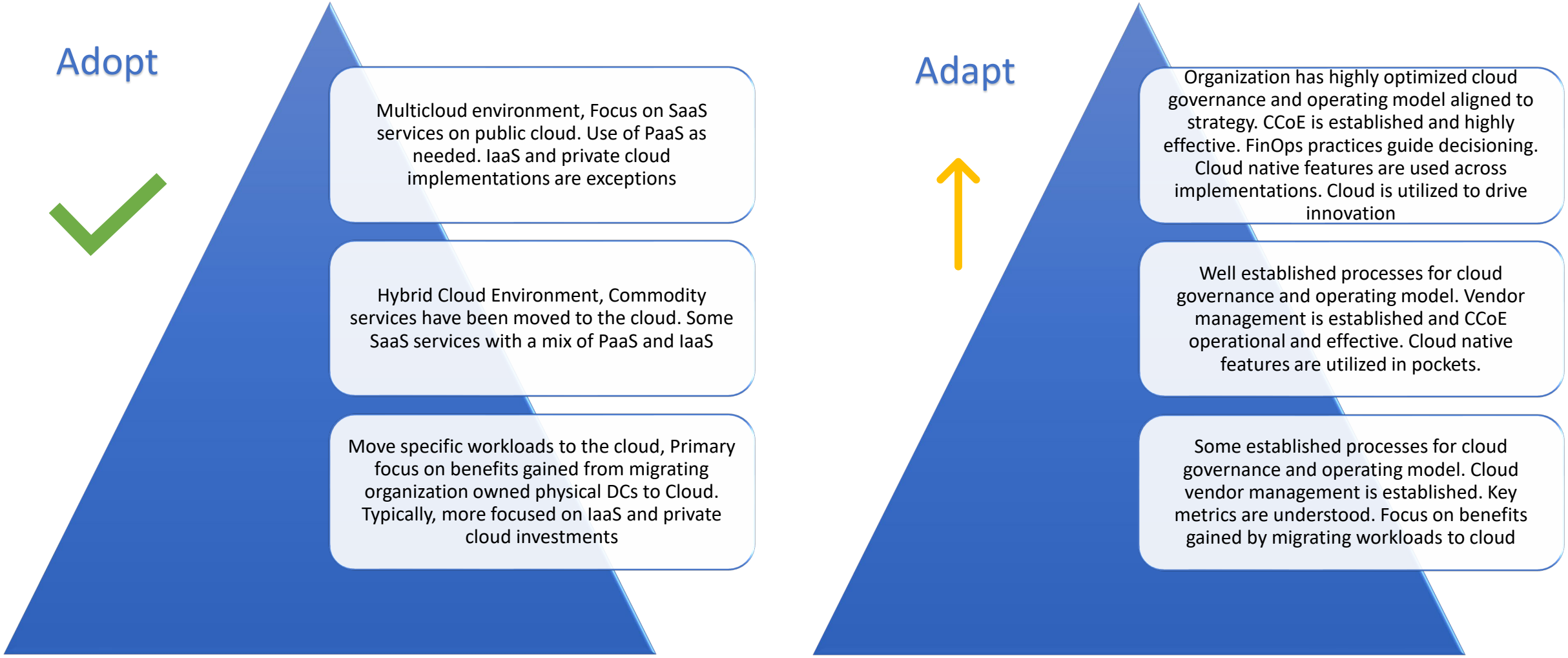
Appendix 2: Gartner Risk Assessment Framework for the Cloud



Appendix 3: Cloud Risk Assessment and Mitigations

Perceived Risk	Mitigation Strategies		
Internal resistance to cloud adoption	Seek executive sponsorship	Trigger compelling event (Move away from Revera)	Establish CCoE communication pathway
Don't possess the required skills	Build training program to develop the required skill set	Seek the guiding hand of an MSP/professional services organization	Seek research and advisory services
Don't trust the MSP (or maturity)	Scrutinize compliance reports from third-party auditors	Build decision frameworks to select trustworthy cloud provider	Check past provider performance and availability metrics
Cloud providers may have outages that we don't control	Build decision frameworks to select the cloud layer that gives you the required level of control	Design for failure: Implement high-availability architectural best practices that allow control of the application failover	Stipulate a cyberinsurance contract
Cloud providers may go out of business or raise prices	Develop an exit strategy	Develop a multicloud strategy	Design for portability
We may not be able to guarantee performance	Develop a Multicloud architecture with appropriate HA architecture	Purchase the appropriate configuration option and service level	Design for scalability
We may experience data loss as we don't control our perimeter	Implement cloud security best practices (such as microsegmentation and security posture management)	Develop cloud data protection strategy (such as encryption and anonymization)	Build decision framework to select cloud provider with an appropriate data protection policy
We may overspend in the cloud as we don't have an upper capacity limit	Develop financial management processes for public clouds	Assign and enforce budget limits on a per-workload basis	Use cloud provider quotas to limit the number of resources we can provision

Appendix 4: Adopt vs Adapt – A Cloud Maturity Model for IR



Appendix 5: Cloud services References

- *"How to Build a Cloud Center of Excellence" — on how to run a cloud community program*
- *"A Guidance Framework for Architecting Portable Cloud and Multicloud Applications" — on how to design application for portability.*
- *"Moving Workloads to Public Cloud, Hosting or Colocation — How to Prioritize and Execute" — on performing application risk assessments based on confidentiality, integrity and availability.*
- *"How to Manage Public Cloud Costs on Amazon Web Services and Microsoft Azure" — on mitigating overspending risks by developing cloud financial management processes.*
- *"Evaluating Public Cloud SaaS Providers: Developing RFP Criteria" — on how to set the requirement baseline for selecting SaaS providers.*
- *"Evaluation Criteria for Cloud Infrastructure as a Service" — on how to set the requirement baseline for selecting IaaS providers.*
- *"Evaluation Criteria for Public Cloud Application Platform as a Service" — on how to set the requirement baseline for selecting PaaS providers.*
- *"Assessing the Strengths and Weaknesses of High-Value IaaS and PaaS Multicloud Use Cases" — on Multicloud strategies as a mitigation technique for risk concentration.*
- *"Designing a Public Cloud Exit Strategy" — to mitigate risks of providers going out of business, dropping service levels or raising prices to an unacceptable level.*
- *"Utilizing Hybrid Architectures for Cloud Computing" — on mitigating performance and integration risks through hybrid architectures.*
- *Gartner Cloud Decisions — on building trust by assessing the historical performance of cloud IaaS providers]*

Inland Revenue
Te Tari Taake

Item 4

ICT Strategy & Application Roadmap

Full Pack – Print Version

CONFIDENTIAL

Executive Sponsor: Myles Ward

- **Executive summary and context**
- Baseline
- Target
- Roadmap
- Appendices

The process to develop Inland Revenue's ICT strategy uses a structured approach to determine our future state and investment priorities.

The project intends to produce a deliverable for endorsement by the Inland Revenue Strategy Board in August 2014. Executive Leadership Team approval is required to enable the project to proceed between key phases.

October 2013

- Confirm project sponsorship, governance and key resources
- Confirm scope, approach, objectives
- Prepare project plan and schedule
- Confirm stakeholder engagement plan
- Interviews with Exec Team

May 2014 Strategy Board

- Update on project plan and governance process

June 2014 Investment Board

- Detailed assessment of IR's current technology capability
- Analyse business plans and establish goals/objectives
- Collect data on IT and business capabilities
- Interview key IT and business personnel
- Analyse global, Government and customer trends

July 2014 Investment Board

- Confirm business and ICT goals/objectives
- Review strategic solutions
- Identify and scope potential initiatives
- Explore potential vendor solutions

August 2014 Investment Board

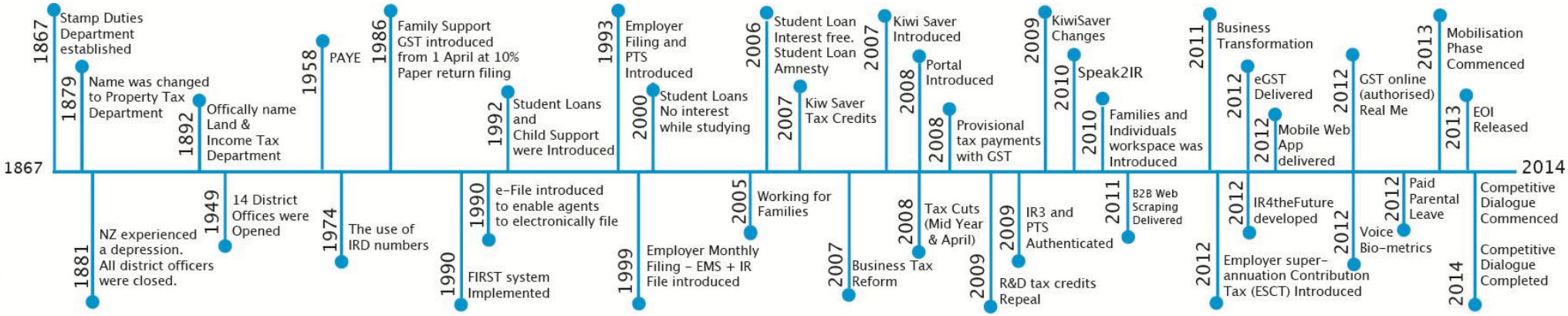
- Confirm initiatives and indicative cost/value
- Integrate Transformation Programme plans
- Create initial sequence of initiatives for each domain
- Create Investment Plan

August 2014 Strategy Board

- Endorsement from Executive Leadership Team
- Prepare targeted materials for communication to specific audiences

Inland Revenue has a critical role in the collection of Government revenue and administration of social policy programmes.

Inland Revenue's systems support core business processes that enable the collection of the majority of crown revenue and administration of key social programmes. Specific responsibilities include policy advice, tax collection, and support of social programmes including Working For Families, Student Loans, Paid Parental Leave, Child Support and KiwiSaver.



Critical Business & Technology Events

- The most significant change to Inland Revenue's technology environment was the introduction of the FIRST processing system in 1990 which digitised key business processes and consolidated input processing to 3 sites (from 26 sites).
- Since the implementation of FIRST the nature of the ICT landscape has increased in scale and complexity due the changes in Inland Revenue's accountabilities and shift in customer preferences to digital and voice-based channels. Significant events that impacted the complexity of IR's environment were the introduction of Child Support and Student Loans (1992), Working for Families (2005) and KiwiSaver (2007).
- During 2006 the ICT Strategy highlighted that FIRST would need to be transformed to enable Inland Revenue's ICT architecture to respond to changing accountabilities, policy settings and customer expectations.
- The design of current services follow the historical, paper-based processes. FIRST digitised internal IR process but left the customer having to deal with a multitude of paper forms and manual processes resulting in a significant compliance burden.
- In 2009 Inland Revenue initiated a business Transformation programme to implement a business operating model and technology environment to support our vision of IR for The future.

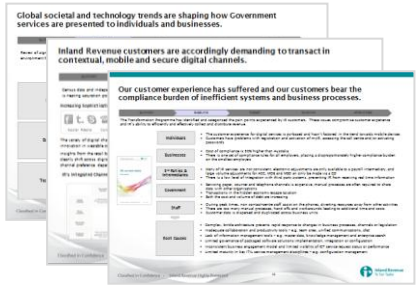
- Executive summary and context
- Baseline
  - **Stakeholder Imperatives**
  - Business Outcomes
  - Financial Performance
  - ICT Capability
- Target
- Roadmap
- Appendices

Changing Government imperatives, customer expectations and business and societal trends increase demand for advanced ICT capabilities.

Analysis of target ICT capabilities have been completed as part of the concept and scoping phases of the Business Transformation (TMP) Programme. Inland Revenue's drivers for change can be attributed to Government imperatives, customer and societal expectations and internal pain-points.

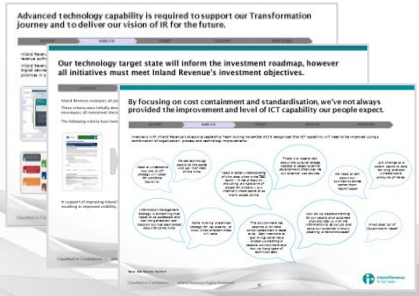
Government Imperatives

- Better Public Services strategy result areas require agencies to develop new business models, work more closely together and harness technology to meet emerging challenges.
- Productivity and efficiency agenda has established an All of Government functional leadership model (e.g. procurement, ICT) and mandated adoption of common capabilities.
- Financial pressures during period of deleveraging requires agencies to achieve 'more with less' through productivity, innovation, and ability to respond quickly to policy change.



External Imperatives

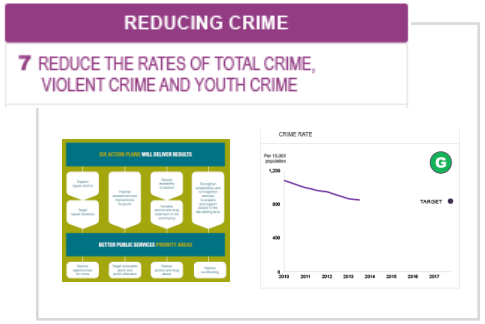
- Customers demand service interfaces that are digital, contextual, real-time and increasingly mobile. Privacy and security concerns are paramount to maintaining trust.
- Customers expect that organisations not only digitise existing, monolithic service chains but create unique value within digital service ecosystems.
- Global citizens and businesses increase the need for 24x7 service delivery and inter-agency data sharing. Decentralisation of customer base and 3rd party providers alter risk profile.



Internal Imperatives

- Maintaining the integrity of the tax system through proactive system stability and monitoring activity. Retention of key organisational IP and tacit knowledge.
- Delivering agile, scalable and secure technology capabilities that support the shift to a primarily digital business model.
- Establishing service management and commercial management competencies that enable the successful integration of third parties within the Target Operating Model.

Inland Revenue directly supports the Government's Better Public Services agenda through three key result areas.

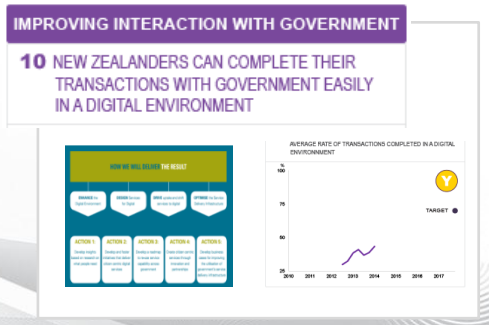


Result Area 7 - Reducing Crime

- Reduce the rates of total crime, violent crime and youth crime by 15% to further reduce harm and the social and economic cost of crime.
- The justice sector (Justice, Corrections, Police, Crown Law, SFO, MSD) has had a successful few years with the recorded crime rate in 2012 reaching a 32-year low (13%). Focus continues on the drivers of crime, prevention first, policing excellence, improved rehabilitation and reintegration and youth offenders.
- Inland Revenue is collaborating with New Zealand Police to share information about serious crimes, in order to enable Police better identify, target and apprehend serious criminals.

Result Area 9 – One Stop Online Shop for Business

- New Zealand businesses have a one-stop online shop for all Government advice and support they need to run and grow their business. Business costs of dealing with Government will reduce by 25% and Government services will have similar key performance ratings as private.
- Result 9 agencies (ACC, IR, MPI, MBIE, Customs, NZTE, Stats, Callaghan) are collaborating to make interactions with Government easier for businesses. NZBN and IR's Online Services are key successes to date.
- Inland Revenue contributes to the R9 targets by improving its online service offering, streamlining GST and employer registration with Companies Office, incorporating the NZ Business Number (NZBN) and, through Transformation, improve services to business.

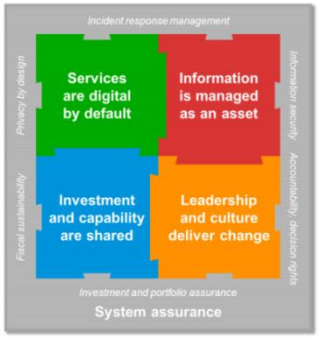


Result Area 10 – Digital Services for Citizens

- New Zealanders can complete their transactions with Government easily in a digital environment. 70% of most common transactions with Government will be completed digitally.
- Result 10 agencies (IR, MSD, DIA, Police, MBIE, Customs, Conservation, Transport) are collaborating to take a new approach to service delivery. There is still more work to do to advance the R10 Blueprint.
- Inland Revenue contributes to the R10 targets by enabling New Zealanders to apply for an IRD number, file and pay individual tax online. We will incorporate RealMe, continue to improve our online service offering and through Transformation provide additional secure digital services.

Inland Revenue also supports the Government ICT Strategy & Action Plan and has committed to leading a number of initiatives.

The Government ICT Strategy was approved by Cabinet as Government Policy in July 2013. This strategy is maintained and measured by the GCIO, focuses on four key areas and is underpinned by a strengthened system of ICT assurance.



The Government ICT Strategy & Action Plan is intended to deliver the following outcomes;

- Enable a 21st century public sector that is capable of responding to New Zealanders' increasing use of technology to communicate, interact and transact with Government.
- People and businesses can connect to Government through digital channels. Services are joined up and technology works across departmental boundaries.
- New Zealander's trust is maintained, and customers have confidence that their information is protected and not misused.
- $100m/year in sustainable business savings to Government.

The digital and information strategic themes of the strategy are cornerstones for Inland Revenue's transformation, and we will use common Government services where available and where these meet the requirements of our transformation objectives.

The extent and nature of IR's further contribution to the strategy depends upon the decisions Ministers make around transformation, and clarification on how the functional leadership model will work in practice. Subject to these decisions there are opportunities for IR to progress the strategy in the following areas.

- **Supporting Government to provide services digitally and manage information as an asset** – Inland Revenue will offer as leverage activities it has underway that directly contribute to these outcomes.
- **Using common Government capabilities** – Inland Revenue will use common Government services where they are available and fit for our use. Where those services are not available, consideration will be given to whether the investment in our transformation can be leveraged for wider Government.
- **Leading Data Integration as a Service** – Inland Revenue will work with other agencies to develop capability to enable more effective sharing of information across Government and with third parties by helping to simplify the management and control of agency data interconnections.
- **Leading Government Payment Service** – Inland Revenue will work with other agencies to explore the options of a standard solution & approach to payment collection and disbursements made available as an all of Government service.
- **Supporting Government Business Rules capability** – Inland Revenue will share our Business Rules experiences and frameworks with other agencies.

Global societal and technology trends are shaping how Government services are presented to individuals and businesses.

Review of trends from analysts (including Gartner, McKinsey, Forrester and Ovum) that have a potential impact on Inland Revenue's current and target technology environment have been summarised into the following trend clusters. This presents Inland Revenue with several strategic options.

	Trend Cluster	Approach
Social	▪ **Me + free + ease** consumers expect instant, easy access to services at no additional cost. ▪ **Social matrix** becomes a major channel for B2B and B2C engagement and transactions. ▪ **Public sector transformation** embraces digital and commodity processes and technology.	**IR could develop new digital products** built on existing process and information assets. **IR could embrace social media platforms** and conversations to support customer service. **IR is responding through the TMP programme** and alignment to Better Public Service outcomes.
Business	▪ **Integrated digital / physical experiences** blend digital interactions with physical experiences ▪ **Evolution of e-commerce** introduces new revenue risks (i.e. P2P lending and crypto-currencies) ▪ **As-A-Service** cloud delivery models develop and enable new asset-light business models	**IR could deploy integrated business processes** across new channels (e.g. wearable computing). **IR could intermediate clearing or settlement** processes to prevent potential revenue erosion. **IR is adopting service-based models for ICT** and could adopt for non-core business processes.
Technology	▪ **Digital innovation ecosystems** allow third parties to connect business processes across organisations ▪ **Big data and analytics** continue to become mainstream and become more self service. ▪ **Automation of knowledge work** continues to industrialise the roles of knowledge workers.	**IR could design for API ecosystem** that exposes business processes as service calls. **IR could design for in-memory analytics** to support real-time access, heuristics and machine learning. **IR could automate activities** through process automation, workflow and heuristic technologies.

Inland Revenue customers are accordingly demanding to interact in contextual, mobile and secure digital channels.

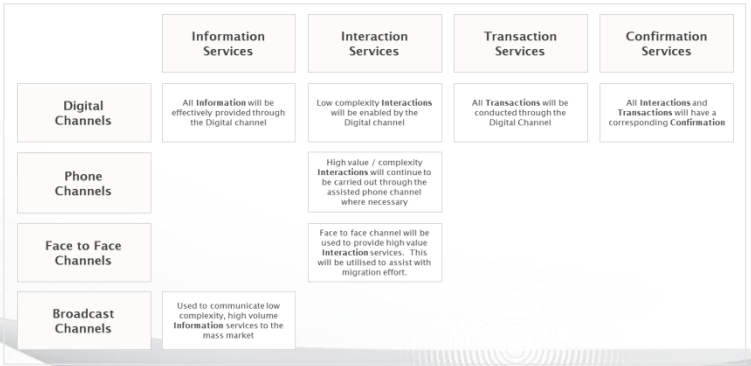
NZ census data and independent research recognises that adoption of Internet and smartphone technologies continues to increase rapidly, and in some cases, is nearing saturation point. Inland Revenue is responding to customer demands through Transformation Stage One to deliver secure digital services.

Social Media **Voice** **Smart Devices** **Desktop** **Wearable** **B2B** **3rd Parties**

The variety of digital channels continues to increase, with accelerating innovation in wearable computing (e.g. Google Glass, Smart watches)

Insights from the retail banking sector indicating that customers do not cleanly shift across digital or physical channels, but instead adjust their channel preference depending on incentive, functionality and time of day. We define this behaviour as 'channel hopping', and it has significant implications for our funding models and benefits realisation.

IR's Integrated Channel Strategy



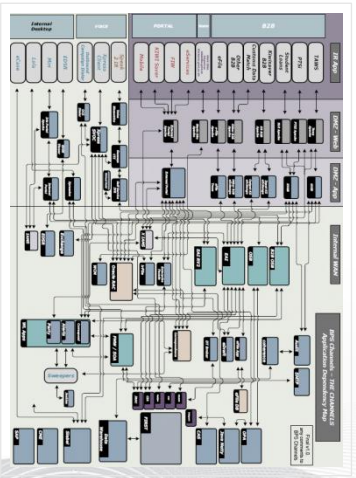
Source: Inland Revenue Integrated Channel Strategy

Work during 2013 produced an Integrated Channel Strategy which describes the conceptual framework for target information, interaction, transaction and confirmation services.

Inland Revenue's broad approach is to shift high-volume transactional and informational services to digital channels, retaining voice and face-to-face capability for high value (or high risk) interactions.

This strategy assumes an integrated experience across the different channels.

IR's Channel Capability Today



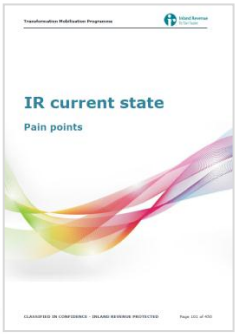
Over the past 20 years Inland Revenue has added social policy products and digital channels in an incremental fashion.

Whilst the majority of authoritative taxpayer customer and transactional data resides within FIRST, business logic that supports channels and complex social policy products are spread between satellite systems, channel applications, integration/middleware products and core systems.

Customer experience is impacted as common business processes and information are not easily integrated between channels.

Our customer experience has suffered as our customers bear the compliance burden of inefficient systems and business processes.

The Transformation Programme has identified and categorised the pain points experienced by IR customers, many of which are directly attributable to ICT capabilities. These issues compromise customer experience and IR's ability to efficiently and effectively collect and distribute revenue.



Individuals

- The customer experience for digital services is pc-based and hasn't factored in the trend towards mobile devices
- Customers have problems with registration and activation of myIR, accessing the call centre and/or activating passwords

Businesses

- Cost of compliance is 30% higher than in Australia
- There is one set of compliance rules for all employers, placing a disproportionately higher compliance burden on the smallest employers

3rd Parties & Intermediaries

- Many of IR services are not consistent; electronic adjustments are only available to a payroll intermediary, and large volume adjustments for ACC, MOE and MSD an only be made via a CD
- There is a low level of integration with third party systems, preventing IR from receiving real time information

Government

- Servicing paper, counter and telephone channels is expensive; manual processes are often required to share data with other organisations
- Transactions in the hidden economy escape taxation
- Both the cost and volume of debt are increasing

Staff

- During peak times, non contact-centre staff assist on the phones, diverting resources away from other activities
- There are too many manual processes, hand offs and workarounds leading to additional time and costs
- Customer data is dispersed and duplicated across business units

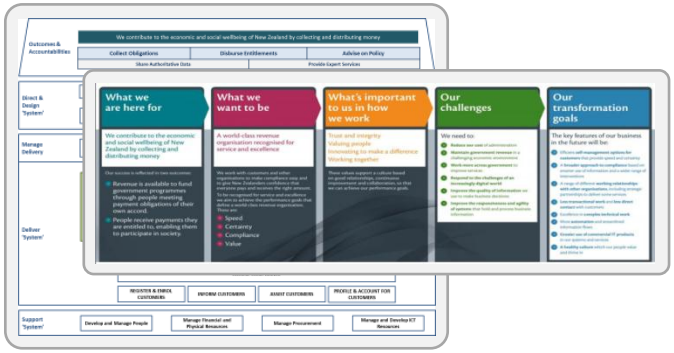
Root Causes

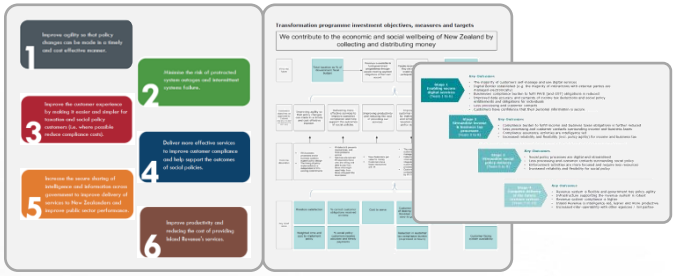
- Complex architecture prevents rapid response to changes in business processes, channels or legislation
- Inadequate collaboration and productivity tools – e.g. team sites, unified communications, chat
- Lack of information management tools – e.g. master data, knowledge management and enterprise search
- Limited governance of packaged software solutions implementation, integration or configuration
- Inconsistent business engagement model and limited visibility of ICT service request status or performance
- Limited maturity in key ITIL service management disciplines – e.g. configuration management

Advanced ICT capability is also required to support key Transformation outcomes that deliver the 'IR for the Future' vision.

Inland Revenue is the Government's principal revenue agency and collects 80% of crown revenue. Inland Revenue's role has evolved from solely being a revenue authority to administering a number of diverse social policy products. IR has developed a reputation for consistent, robust service delivery.

However, Inland Revenue is constrained by incremental change to business processes and a systems architecture that was never intended for complex social policy or digital services. This has affected IR's ability to respond to changes in customer channel preferences and delivery of policy change and other Government priorities in a timely and cost-effective fashion.





How IR for the Future, TOM and Transformation work together.

IR for the Future

In order to deliver what New Zealand needs today, and into the future, Inland Revenue has developed a vision for the organisation called 'IR for the Future'. The vision is to be a world class revenue agency recognised for service and excellence

Target Operating Model (TOM)

Underpinning the vision of 'IR for the Future' Inland Revenue has developed a Target Operating Model that describes what organisational capabilities IR will require. Core to this target model is the implementation of a 'Manage Delivery' set of competencies.

Transformation Programme

Realising the target vision and operating model will be achieved through the execution of Inland Revenue's Transformation programme. An outcome roadmap was approved by Ministers in June 2013 and outcomes have been grouped in four stages over a 10 year period.

Outcomes Roadmap

This staggered yet overlapping approach enables Inland Revenue to manage risk and changes in Government priorities during the expected 8-10 year journey.

- Stage 1 – Enabling secure digital services
- Stage 2 – Streamline income and business tax processes
- Stage 3 – Streamline social policy delivery
- Stage 4 – Complete delivery of the future revenue system

Rather than building one new system to do everything, Inland Revenue will acquire and integrate Commercial Off the Shelf (COTS) packages.

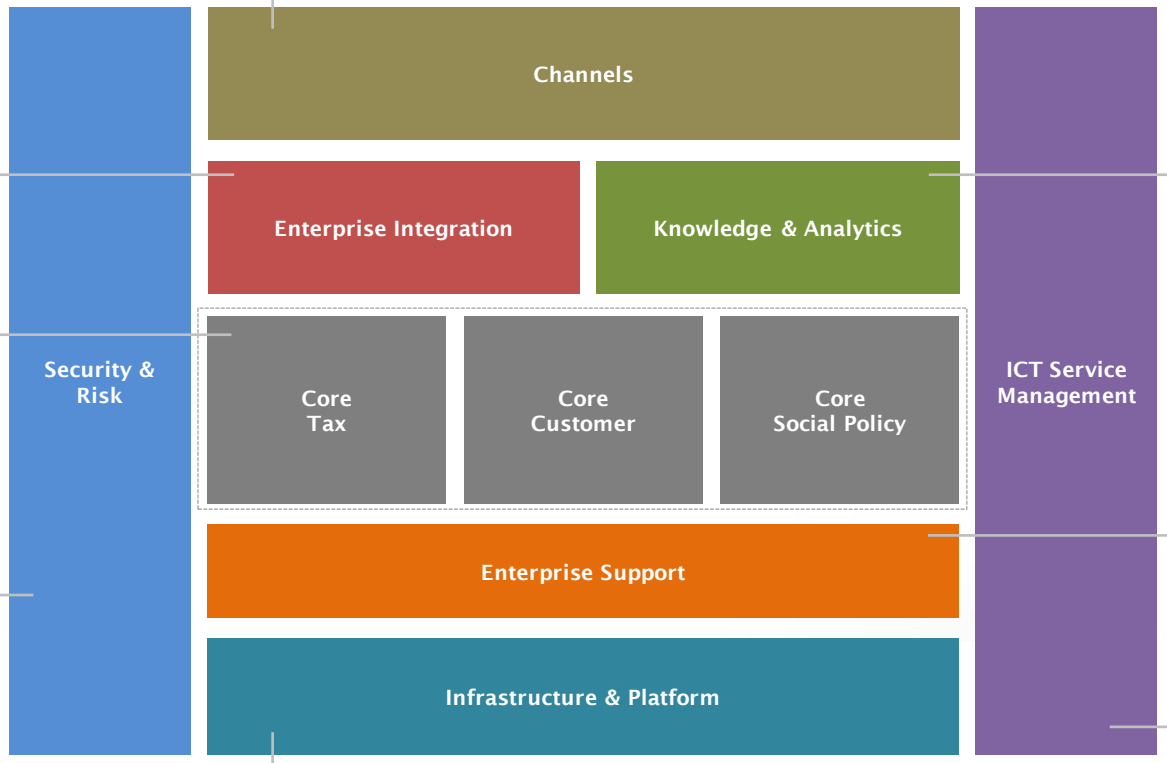
A modular, component-based approach will provide the flexibility and responsiveness to expedite change by integrating with future software packages or externally provided services. Our ICT management focus will shift to focus on commercial management, design / delivery assurance and governance roles.

2 Implement a set of standards based integration technologies to enable synchronise processes and information across Inland Revenue and with partner organisations and agencies.

1 Deliver digital objectives through IR "omni-channel" offerings and API-enabled (B2B/B2G) services. Maintain high standard of contact centre based capabilities. Exit paper-processing assets.

5 Enable an intelligence-led organisation through the integrated enterprise approach to delivery of information management to knowledge. Extend analytics capabilities across the enterprise.

3 Implement a robust, package-based (COTS) set of customer-centric core systems that enable agile changes to tax and social policy products.



6 Leverage COTS packages to deliver common business processes (HR, Finance, Procurement etc). Consolidate and simplify duplicated functions into departmental solutions.

4 Provide effective identity, access and risk management capabilities. Continue to embed information classification and security architecture in the change lifecycle.

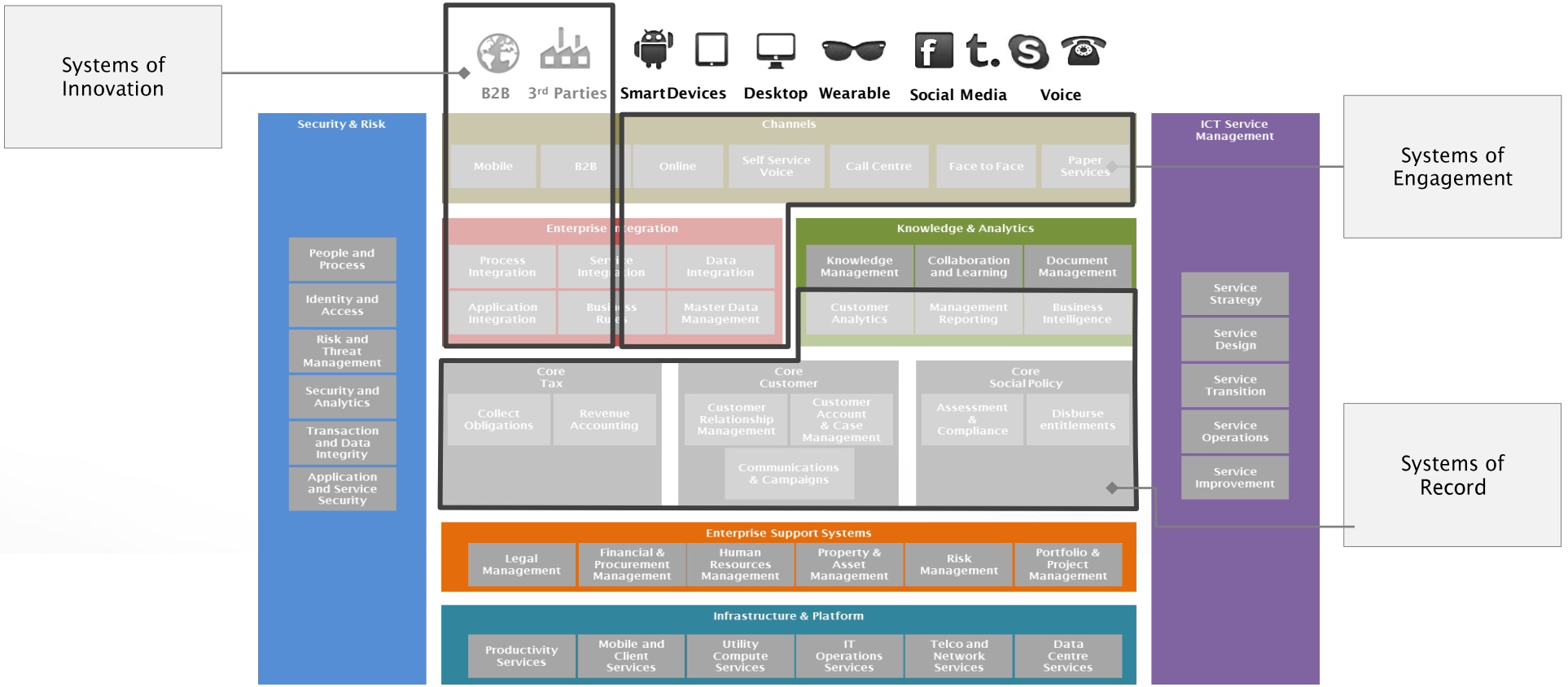
7 Operate a simplified portfolio of IT services which delivers a single catalogue of services from multiple providers enabling IR to provide new or enhanced service offerings more efficiently and effectively

8 Deliver standardised, resilient infrastructure and platform services using "as a service" models. Adopt All of Government common capabilities where available, fit-for-purpose and value for money.

Inland Revenue will define much of the future systems landscape during Stage 1 of the Business Transformation journey.

During the next 18-24 months, the exact target technology architecture will be defined as part of Transformation Stage 1 high level design, including refining the necessary Level 2 capabilities. This architecture will be constrained by the following boundaries;

1. Service-oriented architecture (SOA) as the connective tissue between layers
2. Deployment of systems of record at the lowest total cost of ownership (TCO) to the business
3. Restricted ability to customise purchased applications
4. Use of composite applications for systems of engagement and systems of innovation

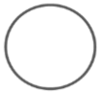


Source: Gartner Application Deployment Options Through the Pace Layer Lens Nov 2012

These position statements provide direction for our investments, and will be updated as we complete High Level Design during Business Transformation.

Capability	Key Recommendations	Degree of Confidence	Current Fitness
1 Channels	1.1 **Device Platform.** Deploy a responsive, device-agnostic architecture to deliver all IR branded services to any target consumer device. Enable click-to-chat, and the ability to mirror user input real-time to IR customer support staff. 1.2 **B2B Platform.** Deploy an Enterprise B2B architecture and migrate all existing B2B connections (e.g. KiwiSaver, Student Loans, Charities). Iteratively create and publish B2B services (APIs) based on Transformation roadmap. 1.3 **Voice Platform.** Maintain the existing level of call centre automation and voice biometric capability. Leverage biometrics platform across other digital channels to perform step-up authentication for high value transactions. 1.4 **Content Publishing.** Deploy a digital content management architecture and supporting processes for end-to-end creation and publishing of digital content to the Device Platform. 1.5 **Service Catalogue.** Create and maintain a catalogue of B2B services (APIs) and their business owners, enabling third parties to discover services upon which to create orderly interactions with IR business processes. 1.6 **Social Platform.** Deploy a social media management architecture, incorporating segmentation, content management, sentiment analysis, conversation management and support for transactional interactions.		
2 Enterprise Integration	2.1 **Process Integration.** Deploy a Business Process Management, automation and monitoring architecture to support extension of COTS processes and long-running transactions (e.g. human tasks or channel hopping). 2.2 **Service Integration.** Deploy an Enterprise Service Bus toolset to support the development of coarse-grained business services in alignment with the Business Process Management toolset selection. 2.3 **Application Integration.** Upgrade existing Application Integration (EAI) components, transition batch services to Data Integration platform and upgrade remaining integrations based on criticality and persistence past 2017. 2.4 **Data Integration.** Investigate solution options for synchronisation of batch and real-time data between systems. Select solution in conjunction with COTS package, as each vendor will have different requirements. 2.5 **Master Data Management.** Investigate solution options for managing authorative master data sources for specific domains (e.g. customer, product). Select solution in conjunction with COTS package. 2.6 **Business Rules.** Maintain the existing level of business rules capability. Leverage business rules to extend the COTS packages when necessary. Expose business rules via B2B Platform for third party applications.		

These position statements provide direction for our investments, and will be updated as we complete High Level Design during Business Transformation.

Capability	Key Recommendations	Degree of Confidence	Current Fitness
3 Core Tax, Customer & Social Policy	3.1 **Core Customer.** Evaluate offerings that provide an integrated solution between Tax and Social Policy platforms. Ensure business processes can be orchestrated and extended via Enterprise Integration and Channel capabilities. 3.2 **Core Tax.** Evaluate solutions that provide straight-through processing and strong tax and duty product management functionality without significant investment in package extension for digital channel deployment. 3.3 **Core Social Policy.** Evaluate solutions that enable automation of social policy products, including application, assessment, calculation, change-in-circumstances, third party relationships, collections and disbursements. 3.4 **Case Management.** Evaluate existing case management solution in conjunction with COTS offering. Extend COTS processes with case management capability. Extend existing Remedy solution if no alternative exists. 3.5 **Revenue Accounting.** Evaluate offering as part of an integrated solution with Core Tax capability. Upgrade and leverage existing CARA and Hyperion solution to support coexistence if required. 3.6 **Customer Accounting.** Evaluate offering as part of Core Tax selection. Ensure support for real-time, risk-assessed, non-repudiated transactions. Ensure inbound and outbound payments support offsets/transfers logic.		
4 Security & Risk	4.1 **People & Process.** Define a security reference architecture and ensure security standards are in place and embed in Change Initiative Lifecycle. Create and maintain a proactive, risk-aware culture. 4.2 **Identity & Access.** Evaluate the role of RealMe and how it can be adopted into the Core Customer capability. Upgrade Oracle Identity manager, and other existing Identity and Access systems. 4.3 **Risk & Threat Management.** Deploy an automated patch management solution. Evaluate an enterprise event management framework to enable 'plug in' support for security related services. 4.4 **Security & Analytics.** Evaluate systems that provide a visual correlation between risk, event and response. Ensure intrusion detection and protection and Zero Day tools are in place and develop a 'One IR' view of actual risk exposure. 4.5 **Transaction & Data Integrity.** Deploy a set of content protection solutions for staff and systems. Provide Defence in Depth through the combination of content protection plus systems protection services. 4.6 **Application & Service Security.** Improve the Change Initiative Lifecycle to ensure that services are secure by design and are accredited. Ensure regular application and service level vulnerability testing is in place.		

These position statements provide direction for our investments, and will be updated as we complete High Level Design during Business Transformation.

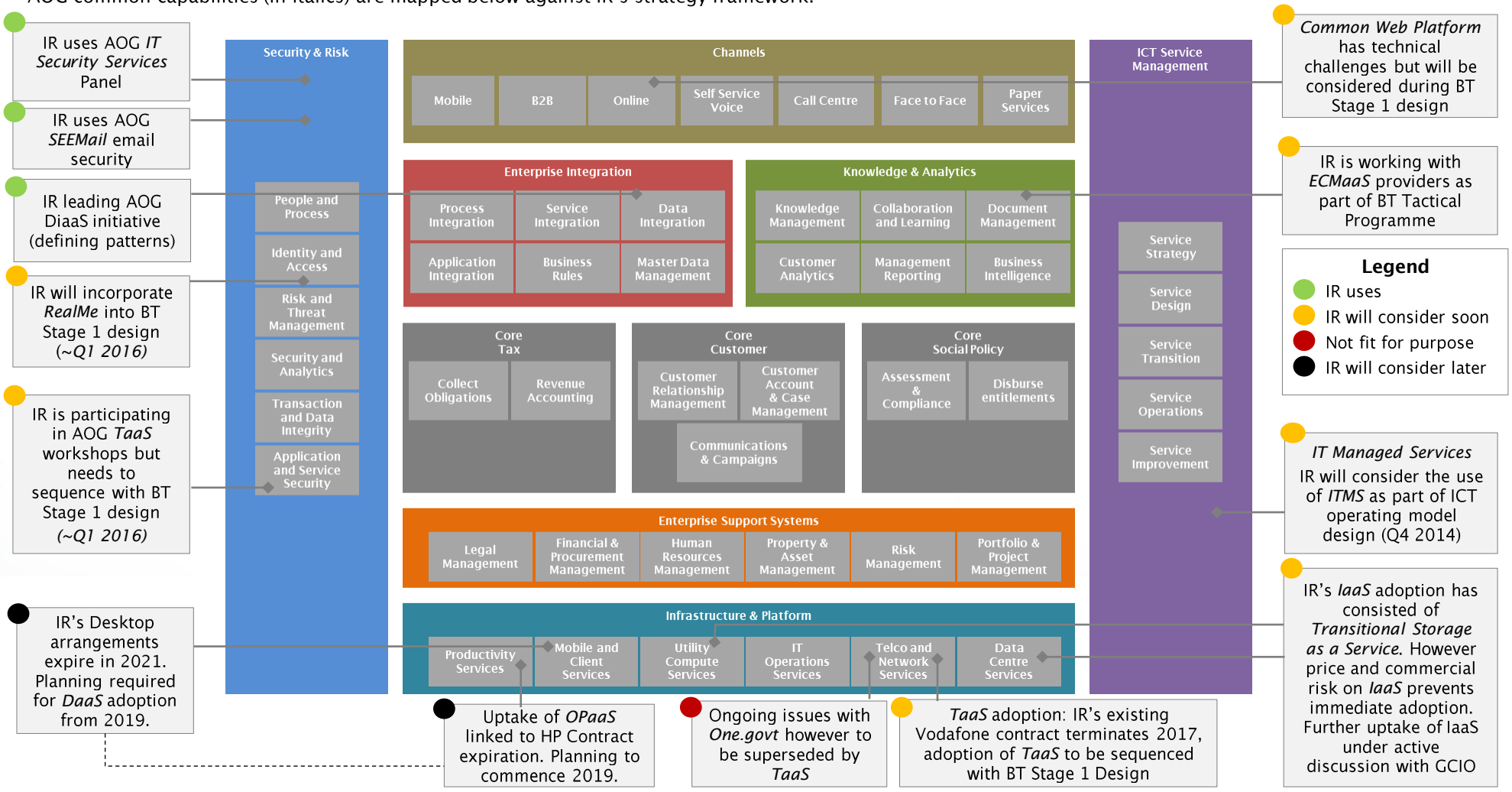
Capability	Key Recommendations	Degree of Confidence	Current Fitness
5 Knowledge & Analytics	5.1 **Knowledge Management.** Deploy a knowledge management architecture that supports II&C's refreshed IM strategy through search, workflow, contextual help and metadata management. 5.2 **Collaboration.** Evaluate an integrated offering, possibly in conjunction with Enterprise Desktop Platform refresh. Deploy collaboration tools and presence-based communication services. 5.3 **Document Management.** Evaluate an integrated offering that supports rapid collaboration, provides workflow and metadata management and supports the IM strategy. 5.4 **Core Customer Analytics.** Evaluate offerings in conjunction with COTS vendor. Integrate Compliance Management Environment (CME) with Channels to inform processes with 'next best action' based on risk or opportunity. 5.5 **Core Management Reporting.** Evaluate offerings in conjunction with COTS vendor for operational reporting requirements. Where COTS reporting needs to be extended, leverage Business Intelligence capabilities. 5.6 **Core Business Intelligence.** Evaluate offerings in conjunction with COTS vendor. Upgrade required capabilities and consolidate applications that are surplus to requirements.		
6 Enterprise Support	6.1 **Legal Management.** Upgrade Siebel and undertake consolidation of existing case management solutions into one solution. Link to Knowledge Management initiatives. 6.2 **Financial Management.** Upgrade SAP ECC to latest support pack and implement process improvements recommended by SAP. Simplify and standardise SAP user interface by upgrading to Fiori or SAP Personas. Consider using Business objects for financial reporting and BPC to replace manual or Hyperion processing. Investigate automation for accounts payable, receivable and claims. 6.3 **Procurement Management.** Continue with SAP for Contract Lifecycle Management – implement full "Procure to Pay" processes including vendor management, requisitions, purchase order management and invoice reconciliations linked back to contracts. 6.4 **Human Resources Management.** Continue with SAP Human Capital Management solution. Implement "Hire to Retire" recommended by SAP best practice; strengthen workflow capabilities and talent management functionality. 6.5 **Asset & Property Management.** Continue with SAP FICO for fixed asset management and accounting. Consider implementing SAP Asset management to track and allocate assets to users. Continue with Property Management Centre of Expertise (PMCoE) cloud solution for property lease management. 6.6 **Risk Management.** Investigate the cost/benefit of deploying SAP Governance, Risk & Compliance module to facilitate proactive prevention of risk events and compliance violations. Alternatively, investigate a modern solution for risk analysis and management. 6.7 **Portfolio & Project Management.** Investigate SAP IT Portfolio and Project Management for business planning, portfolio assessment, project management and operations functionality to streamline existing process. Review options for centralised management of Portfolio, Programme and Project controls, schedules, resources, workflow and documentation.		

These position statements provide direction for our investments, and will be updated as we complete High Level Design during Business Transformation.

Capability	Key Recommendations	Degree of Confidence	Current Fitness
7 ICT Service Management	7.1 **Service Strategy.** Maintain alignment of business and ICT strategies through Enterprise Architecture and planning functions within Inland Revenue. Commence a review of ICT service management maturity. 7.2 **Service Design.** Review the current design lifecycle processes and clarify key deliverables and accountabilities. Evaluate options for governance of external architectures and designs. 7.3 **Service Transition.** Following a review of ICT service management maturity, review existing SDLC milestones to ensure that all activities both add value and protect the integrity of the production environment. 7.4 **Service Operations.** Following a review of ICT service management maturity, develop plans for service desk, application management, infrastructure management and operations management functions. 7.5 **Service Improvement.** Develop a centre of excellence for ICT continual service improvement. Focus on improving high value areas as prioritised by the service management maturity assessment. 7.6 **Service Management Tools.** Continue investment in BMC Remedy toolset and ensure that proposed Config Management initiatives are process-centric and adopt good organisational change management practices.		
8 Infrastructure & Platform	8.1 **Productivity Services.** Establish productivity reference group, in conjunction with Collaboration (5.2) evaluate Lync communicator for presence-based unified comms, evaluate AoG Office Productivity as a Service. 8.2 **Mobile & Client Services.** Establish a service request management automation architecture for both software and hardware requests. Evaluate AoG Desktop as a Service offering as HP desktop arrangements conclude. 8.3 **Utility Compute Services.** Complete virtualisation and Transitional Storage as a Service projects, establish vendors in the AoG Infrastructure as a Service construct for private and public cloud offerings. 8.4 **IT Operations Services.** Measure maturity of existing ITIL processes and develop a service management strategy to address key areas. Continue to embed BMC Remedy toolset to support core ITIL processes. 8.5 **Telco and Network Services.** Continue representation within the AoG Telco as a Service programme. Upgrade call manager and boundary security services. Enable enterprise SIP voice and WiFi capabilities. 8.6 **Data Centre Services.** Complete data centre LAN consolidation. Exit assets from Asteron data centre. Ensure governance of data centre operations is embedded in operations processes.		

IR supports All of Government initiatives and will adopt common capabilities where they are fit-for-purpose and value for money.

IR already uses some All of Government services, and will investigate other services during Business Transformation high level and detailed design phases. IR is working with the GCIO and Treasury teams to ensure service quality and price meet IR needs, and that sustainable funding arrangements are in place. AOG common capabilities (in italics) are mapped below against IR's strategy framework.



COTS based application strategies enable acquisition of best in class business processes without tedious and expensive development and maintenance.

Package-based Business Transformation

Commercial Off-The-Shelf (COTS) business and application transformation strategies enables the following outcomes;

- Immediate acquisition of 'best in class', codified business processes
- Access to ongoing functionality and efficiency improvements as COTS package releases are provided
- Rapid adaption of parameter changes through configuration, rather than code development
- Access to a larger functional skill-base, improved access to technical IP and advanced support
- Reduced testing complexity and effort

Taking an "out-of-the-box" approach to an application demands strong organisational governance and adherence to design principles, with organisation-specific business process or customisation residing in the systems of innovation or systems of engagement.

Business teams must ensure:

- **Standardised business process** — discipline to work across organisational boundaries to minimise the degree of process variation from COTS reference processes. If there are multiple process variants in the systems of record for no other reason but local preferences or historical practice, chaos will ensue.
- **Manageable level of requests for change and customisation** — avoid flooding IT with hundreds of requests for minor changes in commodity processes that don't affect the organisations effectiveness.
- **Master data management discipline** — governance and stewardship ensures common definition of master data rules and consistent master data across apps.
- **Avoiding shadow IT** — If the business is not getting what it wants from IT, it should engage deliberately in the segmented governance processes. If the system of record is not providing the needed services or cannot do it quickly enough, perhaps a system of differentiation or innovation is required, which should be built according to those faster-moving application governance processes.

ICT must provide:

- **Minimum quantity of 'best-of-breed' applications** - The benefits of COTS application suites can only be maintained if business processes are predominantly executed within the suite. Technology-led desires to integrate best-of-breed applications or technologies significantly reduce benefits and increase risk.
- **Well-documented, robust architecture** — A rationalised architecture that can be sustainably maintained.
- **Availability and stable operation** — Stable and predictable operations and maintenance to ensure platforms are available as per OLAs. For packaged applications, this includes maintaining appropriate patching and support packs.
- **Well-defined security, access and compliance controls** — Security and compliance are architected across the portfolio to ensure consistent protection of data and conformance to policy.
- **Effective change management** — Changes to the application suite or business rules are made deliberately, with appropriate governance and testing.
- **Process performance measurement** — Systems are measured in business terms and tracked to ensure that SLAs are met.

Investment in integration capability will enable migration from legacy systems to new COTS solution and minimise business service interruption.

Inland Revenue faces the following business challenges during the period of co-existence of FIRST and the new COTS solution,

- Maintaining the integrity and availability of the tax system
- Extracting, updating and sharing information within and outside of Inland Revenue
- Enabling co-existence of legacy FIRST and COTS software packages

Enterprise Integration capabilities provide the ability to synchronise business processes and data across different application stacks. This reduces customer, organisational and system disruption during transition from one application environment to another.

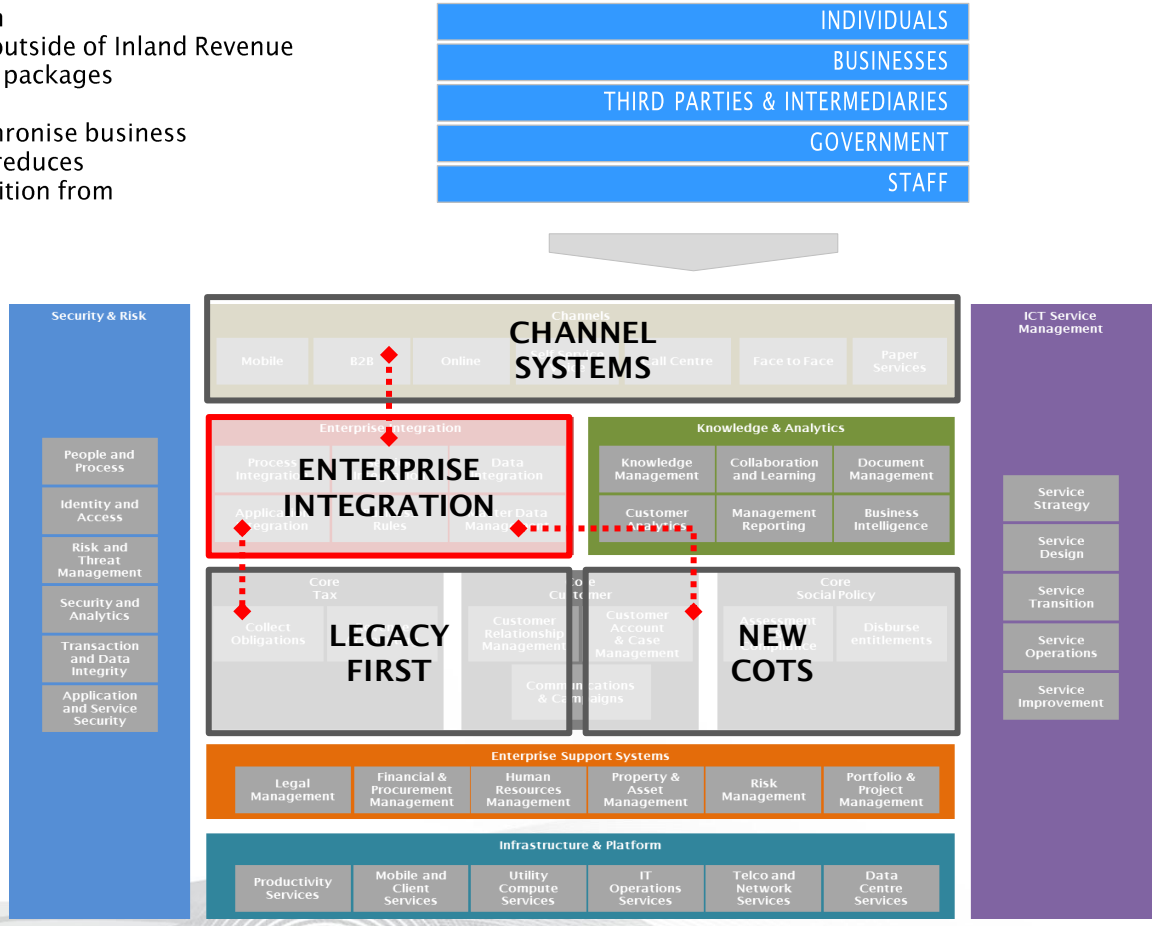
In addition, Inland Revenue's existing face-to-face, call centre, online and B2B applications all use integration technology (JCAPS) which is end of support by Dec 2017.

The following capability investments will be required;

- Enterprise B2B channel
- Enterprise Service Bus

A suitable enterprise integration suite needs to be selected and acquired.

- New services will be deployed on this capability that connect old and new environments, and enables co-existence of systems and transition
- Existing Inland Revenue channels and services will be migrated to these new Enterprise capabilities to mitigate business risk.
- The B2B channel will be enhanced by iteratively developing API services that allow third parties and intermediaries secure access to IR processes and data.



Inland Revenue
Te Tari Taake

AI Strategic Considerations & Roadmap

Version: FINAL 29/01/24

Table of Contents

Inland Revenue
Te Tari Taake

Executive Summary

At Inland Revenue we have a structure and governance in place for AI and are now looking to further develop strategic considerations and a roadmap for this capability. This is a key input to Inland Revenue's Enterprise Strategy and long-term planning.

We have established a strategic framework to guide the secure and effective adoption of artificial intelligence (AI) within Inland Revenue. Our AI strategy consideration pack is informed by comprehensive research and collaboration with experts, and it presents an approach structured around seven strategic pillars that resonate with our organisational goals, ensure fair user experiences, and maintain secure, transparent innovation.

Key Components:

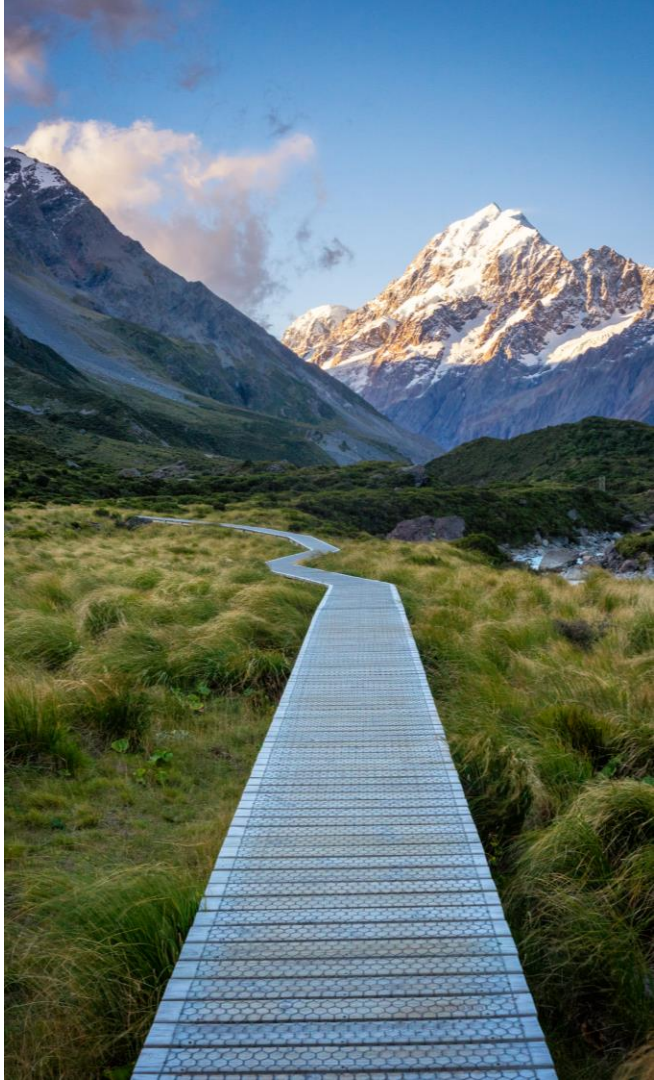
- **Strategic Considerations:** The foundations of our AI strategy consideration pack are pillars that align with our organisational aims, champion inclusivity, fortify security, prepare infrastructure, and conform to regulatory standards.

- **Prioritisation and Roadmap:** We introduce a prioritisation model for AI initiatives, coupled with a phased roadmap. This framework provides direction for foundational and optional activities from the initial stages through to broader implementation.

- **Impact on Inland Revenue:** This framework allows us to carefully consider ways to integrate AI into IR's operations and people capabilities. AI has the potential to increase operational efficiency and enhance the customer experience, whilst supporting IR's broad roles as defined in our enterprise strategy.

Background & Context

- At Inland Revenue we have a structure and governance in place for AI and are now looking to further develop strategic considerations and a roadmap for this capability. This is a key input to Inland Revenue's Enterprise Strategy and long-term planning.
- Through this work, we have identified and developed pertinent strategic considerations for Artificial Intelligence and concluded with high-level roadmap options for prioritisation.



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Our Approach

Our approach included drawing on key inputs to support the development of AI strategic considerations and a use case prioritisation framework to feed into a clear roadmap to safely uplift our Artificial Intelligence (AI) capabilities and enable us to better leverage AI to meet our strategic goals.

INPUTS

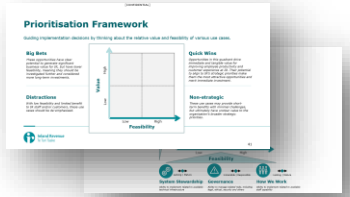
Thought Leadership	Global thought leadership, local considerations and discussions with Deloitte subject matter experts
Reference Documents	23 reference documents have been incorporated from IR
Interviews	20 IR stakeholders provided input, across 9 interviews
Meetings for input and review	3 AI Oversight Group Meetings, 3 AI Working Group meetings, and 5 AI Strategy & Roadmap Sub-Group Meetings
WG Use Cases	20 use cases incorporated from the AI backlog

Informs...

AI STRATEGIC CONSIDERATIONS

Strategic Alignment, Our Customers, Our People, How We Work, Our Approach, Data and Digital, Landscape

USE CASE PRIORITISATION

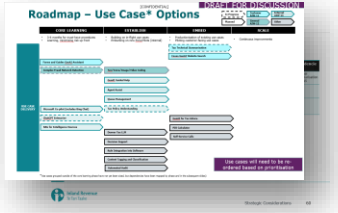


Informs...

PATH FORWARD

AI Roadmap Foundations

AI Roadmap Use Case Options



Strategic Considerations

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Te Tari Taake

Introduction to the Strategic Considerations Framework

- We have developed a framework guiding the use of AI in our operations and strategic outlook, consisting of seven essential pillars: Strategic Alignment, Our Customers, Our People, How We Work, Our Approach, Data & Digital, and Landscape.
- This dynamic framework integrates our alignment with endorsing socially accountable, fair, transparent, secure, and confidential AI systems.
- We're committed to enhancing workforce understanding of AI, fostering innovative partnerships, creating a solid digital ecosystem and manoeuvring through potentially turbulent political and other environmental factors.
- As we strive towards excellence, we adhere to trustworthy AI principles and international standards; we respect the data sovereignty and other Te ao Māori considerations, all while focusing on stewardship, efficiency, effectiveness and promoting a culture of continuous growth and learning.

AI Strategic Considerations

Strategic considerations are the factors and elements that we seek to consider when shaping our approach towards AI. They include factors internal to Inland Revenue and external influences both locally and internationally. We explore each in more detail next.

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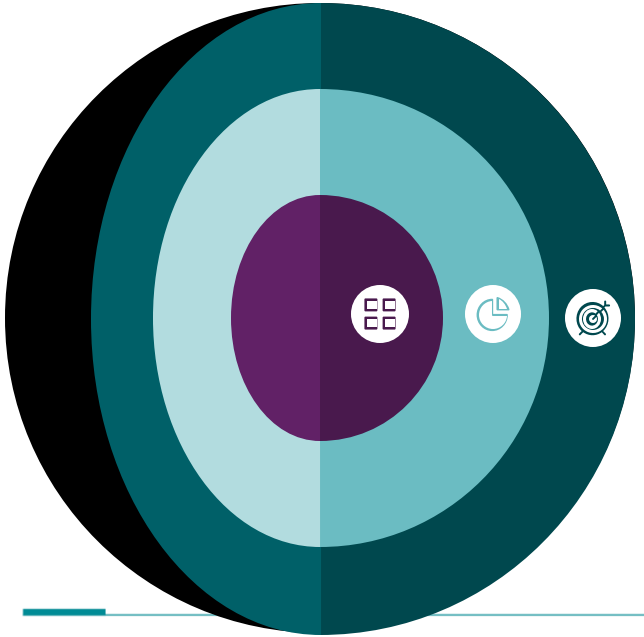
A deep dive into each pillar & element follows



Framework

The framework outlines the strategic considerations to ensure alignment with fair, transparent, secure, and confidential AI systems

7 essential pillars

Each pillar includes factors internal to Inland Revenue and external influences both locally and internationally

19 elements

Under each pillar sits various elements which should be considered when shaping our approach towards AI

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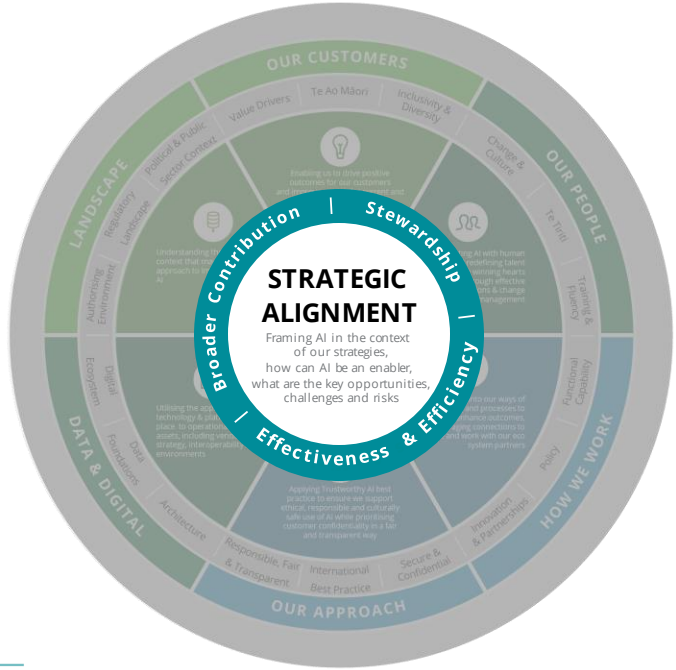
Strategic Alignment

Effectiveness & Efficiency	Stewardship	Broader Contribution

- **Effectiveness & Efficiency:** By integrating AI, we can optimise our resource utilisation and streamline operations, enhancing our decision-making capabilities and improving our overall effectiveness and efficiency through optimisation and automation.

- **Stewardship:** Stewardship is crucial as we implement AI, and with careful planning and strategic allocation of resources, we can improve our adaptability, safeguard existing systems, and maintain the integrity and the relevancy of the tax and social policy system.

- **Broader Contribution:** As we strive to make a broader contribution to New Zealand, integrating AI can enhance cross-departmental data processing and enhance our capabilities for efficient partnerships, fostering holistic insights and innovative solutions.



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Strategic Alignment

STRATEGIC CONTEXT

Aligning the use of AI to accelerate the realisation of our organisation's aspiration and outcomes.

Our Enterprise Strategy is central to shaping the approach to AI. This strategy revolves around four key elements: our people, the driving force behind our operations; our customers, who guide our operational focus; supporting the Crown to be a better Treaty partner, promoting equitable services across Aotearoa New Zealand; and maintaining the integrity of the tax and social policy system, our underlying cornerstone. AI holds the potential to strengthen these pillars by streamlining processes, anticipating risks, and optimising public service delivery. However, as AI innovations and data flow escalate, stewardship becomes more critical. Falling behind in this rapidly evolving field could jeopardise our ability to effectively maintain our services. It's also crucial that te ao Māori principles are deeply woven into our strategy. By aligning AI with our objectives, we can strive towards promoting 'Oranga' via cross-government cooperation, robust social policy, and revenue generation. This combined strategic precision and deepened operational understanding could significantly elevate our performance.

STAKEHOLDER FEEDBACK

In order to optimise its operational effectiveness, we should consider transforming our perception of the synergies with our ecosystem partners and maximising the potential of data-driven strategies. This involves emphasising strategic alignment and innovation while observing a cautious approach towards risks. AI technology has a critical role in propelling the development of enterprise and refining various strategies rather than functioning on its own, with notable impacts on managing brand reputation and enhancing customer communication quality.
Interviewees: Mary, James, Mike.

OPPORTUNITIES & CHALLENGES

- Successful AI integration could enhance efficiency, effectiveness, stewardship principle alignment, and broader public service delivery in Aotearoa New Zealand, as well as confer a 1.7 times greater likelihood of achieving exceptional outcomes for organisations with enterprise-wide AI strategies [1].
- Successful AI integration is complex and difficult, with only 28% of organisations achieving high outcomes from AI deployments in 2021 [1]. Large-scale public service organisations like IR may encounter extra barriers when adopting AI at scale.

RISKS

- As nearly 50% of organisations have reportedly experienced poor AI outcomes, it's evident that introducing AI into our systems poses a risk to upholding the principle of stewardship. Indeed, any related regulatory failures could jeopardise the integrity of the tax system. To avoid undermining public confidence and operational stability, careful planning of AI initiatives is key to ensure they enhance, rather than detract from, our efficiency and capability [1].
- With a potential for AI initiatives to become costly diversions, there's a clear risk of straining our resources without delivering the promised benefits. Thorough planning, strategic allocation of resources, and prudent execution can help manage this risk and ensure meaningful return on investment.
- To navigate societal implications, it's pivotal for us to anticipate possible disruptions, continually assess societal responses, and create an inclusive communication strategy to engender trust and promote understanding among stakeholders.

KEY INSIGHTS

- We have leveraged technology for outcome improvement and efficiency gains throughout our history. While AI technologies are emerging and advancing quickly, they are simply the next tool for us to leverage to empower our people to further the interests and improve the delivery to our customers and New Zealanders as a whole.
- Combining Artificial Intelligence (AI) with our service delivery can optimise resource utilisation and streamline operations. This would enhance result-oriented decision-making in Aotearoa New Zealand by leveraging machine learning models for accurate tax prediction and ensuring effective resource allocation. AI can also facilitate continuous innovative solutions that improve service delivery.
- Fostering an AI-enabled ecosystem can promote stewardship by improving adaptability and safeguarding existing systems. Predictive analytics offer the ability to proactively adjust to future customer trends. Coupled with AI-enhanced cybersecurity, this would bolster legislative, asset, and resource integrity. Additionally, implementing AI-oriented training programs would ensure the workforce evolves in line with technological advancements.
- Embracing shared AI platforms amongst public services can heighten the broader contribution of IR to New Zealand. Through rapid processing of cross-departmental data, AI can enable generation of holistic insights and innovative solutions. Moreover, the automation capabilities of AI can foster partnerships with other agencies to improve the efficiency and quality of public services.

ROADMAP CONSIDERATIONS

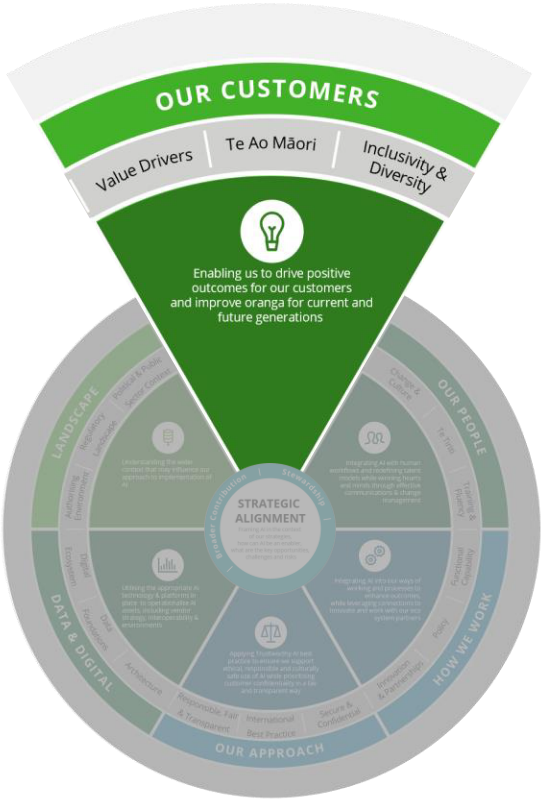
Strategic Alignment & Stakeholder Engagement

1. DL_CIR_State-of-AI-4th-edition.pdf (deloitte.com)

Our Customers

Value Drivers | **Te Ao Māori** | **Inclusivity & Diversity**

- **Value Drivers:** We aim to leverage AI to enhance efficiency, decision-making, and service delivery, refocusing our resources on higher-value innovations for improved customer outcomes.
- **Te Ao Māori:** We seek to ensure that data sovereignty principles underpin all AI initiatives, recognising Tangata whenua as kaitiaki (guardians) of their own data and fostering oranga (health and well-being) through equitable tax processes.
- **Inclusivity & Diversity:** Ensuring our AI strategy at Inland Revenue prioritises accessibility and inclusiveness for all our customers and workforce is key in delivering a diverse, equitable, and representative service that aligns with the principle of manaakitanga in Te Pou o Te Tangata.



Inland Revenue
Te Tari Taake

Value Drivers

STRATEGIC CONTEXT

Value drivers are the strategic considerations that impact us delivering the maximum effectiveness and efficiency from AI.

Value drivers are essential in shaping our approach to AI because they align technological advancements with our aspirations and outcomes, ensuring AI initiatives contribute to broader organisational impact. This alignment is crucial in harnessing AI's potential to enhance efficiency, decision-making, and service delivery in the tax domain.

By leveraging AI for automating routine tasks and decision support, resources are redirected towards higher-value activities, fostering a culture of innovation and ensuring the technology's meaningful and measurable contribution to the broader government and tax ecosystem.

STAKEHOLDER FEEDBACK

We are prioritising customer-centric approaches, focusing on opportunities to quickly make a difference and effectively managing risks. Advancements in efficiency and corresponding value for given business opportunities are essential, while also acknowledging the importance of having the necessary roles and skills aligned with value drivers. The strategic balancing of protection and opportunities, emphasis on enhancing decision support for staff, and partnering with intermediaries all form key aspects of the AI strategic considerations.
Interviewees: Mary, Cate, Mike, Malcolm, Tina, James, Dan.

OPPORTUNITIES & CHALLENGES

- AI can automate routine processes, notably in back-office operations, enabling staff to focus on complex issues, thereby increasing efficiency and enhancing decision-making capabilities [1]. Notably, AI can provide decision support through real-time prediction and simulation [2].
- The integration of AI necessitates significant organisational changes, including reimagining work practices and developing new talent strategies. This presents both an opportunity to drive transformation and a challenge in managing the change journey within the organisation [3][4].
- Successfully scaling AI technologies within the organization can bring about transformative benefits, impacting not just internal operations but also improving citizen services. This requires a strategic focus on use cases that yield high return on investment and foster internal cultural changes [5]. Shifting focus from improving isolated processes to a systemic approach that aims to create better outcomes as a whole is part of this.

RISKS

- Establishing the necessary data and technical infrastructure is critical for deploying AI. Any inadequacies in this area pose significant risks to the success and effectiveness of AI initiatives [1]
- The need for upskilling or hiring key staff, along with refining approaches toward AI governance, presents risks related to talent acquisition and management. Ensuring that staff are adequately prepared and have developed the fluency to work with AI is vital for mitigating these risks, as well as putting robust governance processes in place [1][6].
- Reliance on rapidly evolving technologies like big data analytics, RPA, AI, and machine learning introduces risks associated with keeping pace with technological advancements and ensuring that these are effectively integrated into tax processes [6].

KEY INSIGHTS

- Focusing on use cases with high potential for return on investment can create momentum for further AI adoption and drive internal changes, essential for maximizing the impact of AI in government sectors [4]
- AI's valuable decision support capabilities include using predictive algorithms to turn data flows into practical insights, virtual experiences (with VR or digital twins) as a low-risk testing environment, or even a GenAI assistant to provide decision-making advice [2]. For example, the US IRS are using advanced analytics to monitor taxpayer behaviour and make real-time decisions to "nudge" them toward greater tax compliance [7].
- AI's capability in real-time tracking and data analysis can significantly improve public services, enhancing service delivery to citizens [8].
- AI applications in government can address resource constraints, reduce backlogs, and free workers from mundane tasks. This not only optimizes resources but also attracts younger, tech-savvy workers, addressing personnel challenges [8].
- As compliance tasks are automated, AI enables tax professionals to focus on navigating complex regulatory environments, thereby adding more value within the organization and ensuring effective tax risk management [6].

ROADMAP CONSIDERATIONS

AI Impact Assessment | Funding

Use Case Proposal and Prioritisation Framework

Benefits Tracking Framework (KPIs) for AI

1. DI_AI-readiness-for-government.pdf (deloitte.com)
2. How AI Can Help Leaders Make Better Decisions Under Pressure (hbr.org)
3. DI_CIR_State-of-AI-4th-edition.pdf (deloitte.com)
4. us-ai-institute-state-of-ai-fifth-edition.pdf (deloitte.com)
5. The Impact of Generative AI in Finance | Deloitte US
6. working-and-thriving-in-a-digital-tax-world (deloitte.com)
7. Digital Revenue Agency of the Future | Deloitte Luxembourg | Public Sector
8. DUP_AI-augmented-government.pdf (deloitte.com)

Te Ao Māori

STRATEGIC CONTEXT

Adopting a Māori lens when considering how we use AI to better serve Aotearoa.

In order to foster oranga in all areas, it will be beneficial for us to think holistically when considering how to create enhanced outcomes for tangata whenua through the adoption of AI.

He rei ngā niho, he paraoa ngā kauae – One must have the right principles for large undertakings.

STAKEHOLDER FEEDBACK

AI has potential to counteract unconscious bias, and its implementation at IR will require careful consideration of data storage locations. Collaborative opportunities with Te Kāhui Tūhono need to be explored and any decisions must be viewed through a risk lens.

Interviewees: Anil, Mike, Brijesh, Mary, Cate.

OPPORTUNITIES & CHALLENGES

- The adoption of AI tools presents a unique opportunity to build more trust with Māori communities, providing principles of Māori data sovereignty are incorporated. Notably, there is a need to ensure Māori are kaitiaki of their own data and prioritise benefits back to the community.
- We have a key opportunity to think at the level of the broader tax system, and set out to reduce inequitable outcomes for Māori communities through AI implementation. We could explore opportunities to incorporate mātauranga Māori in AI systems through sustained community engagement.

RISKS

- Many AI applications require data to be stored in overseas data centers, which may conflict with principles of indigenous data sovereignty whereby Māori have the intrinsic right to control over their own data. Similarly, many Māori communities have expressed concern over the use of their language data to train Large Language Models for generative tasks without their consent, when they should be active decision-makers in the process [1].
- Potential for AI initiatives to perpetuate further harm, if insufficient consideration is given to te ao Māori. Particularly, care is needed to ensure that further bias is not encoded in AI models through the use of imbalanced datasets, and that generative AI tools do not misrepresent reo and tikanga in its outputs. Preventative steps should be communicated to the public.

KEY INSIGHTS

- Principles of Māori Data Sovereignty are designed to comprehensively cover all aspects of the collection, storage and use of Māori data. Notably, Te Mana Raraunga's Māori Data Governance model can be used to support IR efforts to foster oranga for current and future generations [2]. Critically, data is considered to be taonga and should be collected respectfully in ways that prioritise Māori needs, fostering kotahitanga (collective benefit).
- Data storage considerations include ensuring Māori control as well as sufficient privacy and security measures, ensuring that tangata whenua are kaitiaki over their own data. Finally, the use of Māori data should benefit the Māori community, with the aim of reducing inequities over time and putting protection in place to prevent future harm.
- Work in this space should be done in conjunction with Te Kāhui Tūhono within IR.

ROADMAP CONSIDERATIONS

Partnership & Engagement with Māori

1. *Indigenous groups in NZ, US fear AI colonisation | Reuters*
2. *Te Kāhui Raraunga*

Inclusivity & Diversity

STRATEGIC CONTEXT

Ensuring accessibility of our AI tools for the organisation and customers, and increasing inclusive outcomes.

This consideration will be of utmost importance when incorporating AI into Te Pou o Te Tangata, or how our enterprise strategy is delivered. It aims to ensure that the entirety of our diverse customer base and workforce is included on the journey of AI implementation, and that accessibility is prioritised.

STAKEHOLDER FEEDBACK

As technology becomes more integrated, efforts must be made to prevent exclusion of individuals who lack access, skills, motivation, or trust in digital capabilities.

Interviewee: Anil.

OPPORTUNITIES & CHALLENGES

- AI, and specifically GenAI, is poised to help users more easily access relevant information, providing a key opportunity to improve the inclusivity of our channels [1]. To activate the full gains of AI tools, we should ensure that services are fully accessible, and carefully considered to all internal and external end-users, considering the diversity of the taxpayer base, providing multilingual options and support for those with disabilities.
- Seeking diverse perspectives (manaakitanga) to inform the work we do, a key pillar of Te Pou o Te Tangata, will ensure our AI initiatives benefit all of our people. Internal workshops, with a team of staff from all backgrounds and levels of the organisation, will notably help to eliminate possible biases in AI algorithms from early in the design process, as any potential blind spots will quickly be identified by such a team [2].

RISKS

- Without sufficient engagement and co-design, there is a risk that AI solutions will only be beneficial for certain segments of our workforce and customers. This connects to the broader issue of digital exclusion, whereby certain groups may be less able to use digital tools (including those built with AI) due to a lack of experience with technology, among other factors [3]. This risk is particularly pronounced in our organisation's case, as tax administration services need to be fully accessible to the wider population.
- Particular consideration should be given to upskilling and engaging Māori, as is further discussed in the foundations segment of this strategic framework. Otherwise, there is a risk that AI tools will perpetuate harm for these communities rather than being part of the solution.

KEY INSIGHTS

- People living with disabilities have expressed a great deal of interest in how the use of AI is poised to make their lives easier. Indeed, there are many potential benefits of use cases such as a Generative AI assistant, for example, to help customers more easily navigate through and interpret material when interacting with our organisation [1].
- Inclusivity by design can be implemented in AI tools through a collaborative engagement process. Notably, consulting a diverse range of end-users will be critical to drive innovation and development, including hearing about their previous experiences of using AI applications and taking suggestions for improvement on board. Specifically engaging with members of the neurodivergent community can, for example, help our designers simplify content in ways that may seem small but make the world of difference when it comes to accessibility [4].
- Inclusive design can also be enabled through technical measures that target accessibility, such as speech-to-text capability or keyboard navigation. These are most effective when built in early on in the process, so that they are central to the design of a particular solution rather than worked in just before production [1].

ROADMAP CONSIDERATIONS

Use Case Proposal & Prioritisation Framework

Partnership & Engagement with Māori

1. Designing GenAI for People with Disabilities (hbr.org)
2. us-ai-institute-state-of-ai-fifth-edition.pdf (deloitte.com)
3. OECD State of the art | (oecd-ilibrary.org)
4. Inclusive Design (deloittedigital.com.au)

Related Resource 1: DL_CDO-Playbook-2023 (deloitte.com)
Related Resource 2: Entering the world of tax (deloitte.com)
Related Resource 3: Scaling AI in government (deloitte.com)

Our People

Change & Culture	Te Tiriti	Training & Fluency

- **Change & Culture:** We understand the pivotal role that workplace culture and change management play in successful AI integration, and how it addresses our strategic consideration of ensuring effectiveness and efficiency within Inland Revenue.
- **Te Tiriti:** We recognise the importance of upholding our commitments to Māori under Te Tiriti o Waitangi within our AI strategy, acknowledging the potential of AI to enhance our contributions to oranga tāngata, oranga whānau and oranga whenua. This is achieved through a continued engagement and partnership with Māori, ensuring the fair and transparent use of AI tools in tax services that respect and incorporate mātauranga Māori.
- **Training & Fluency:** Cementing AI fluency within our organisation is vital to prepare us for the future of work, leverage the full potential of AI, and ensure our workforce is equipped to engage with AI initiatives and responsibly use AI tools in their tax-specific tasks.

Inland Revenue
Te Tari Taake

Change & Culture

STRATEGIC CONTEXT

Fostering a positive culture of AI adoption and innovation within our organisation, through carefully planned change management and communications.

For us to achieve the key outcome of staying 'effective and efficient' far into the future, a focus on workforce culture will be essential. This builds into having a fit-for-purpose change delivery model, with change management planning already actioned by the AI Working Group.

A recent study showed that nearly half of all organisations experience difficulties in integrating AI into their daily workflows, highlighting the importance of fostering a receptive workplace culture where AI adoption is widespread, new ways of working are fostered and job satisfaction is enhanced.

STAKEHOLDER FEEDBACK

The strategic implementation of AI in Inland Revenue will require a people-first approach, fostering a culture shift towards embracing AI while emphasising it is not a threat to job security but a tool in service of people. The application of AI should be designed with a mindset of being AI-first but not a one-size-fits-all solution, and efforts must align with Te Kāhui Tūhono's vision. A notable challenge includes seamlessly integrating AI into people's workflows.
Interviewees: James, Mary, Cate, Anil, Tina, Brijesh, David.

OPPORTUNITIES & CHALLENGES

- We have the opportunity to underpin the next stage of our AI journey with a comprehensive change management plan. In consolidating our existing internal teams that focus on AI, we will be able to identify AI champions at all levels of the organisation to drive wider adoption and fluency.
- Through a carefully curated communication plan, we can encourage an attitude of curious enthusiasm in staff across the organisation by conveying key messages and critical information about AI initiatives to relevant stakeholders as well as all employees, ensuring everyone is brought along on the journey.

RISKS

- In order to limit cultural misalignment, it will be important to assess workforce readiness to move towards AI usage and identify gaps and possible roadblocks early on. This will avoid any adoption pains and optimise the efficiency gains of implementing AI within IR.
- If organisational culture is neglected as we pivot towards higher use of AI, staff may become disillusioned with the power of AI to enhance their day-to-day work, or we may not see sufficient adoption in the first place. This risk of employee dissatisfaction can be mitigated by a well-thought-out change management plan.
- The adoption of AI may cause concern for our staff and associated unions, as role descriptions have the potential to change. Entry level roles are poised to change the most, with internal training pathways also shifting in focus. We will need to carefully consider this risk as the organisation continues on its journey with AI.

KEY INSIGHTS

- When seeking to grow their internal AI capability, organisations tend to hire experienced professionals with existing AI knowledge when early on in their AI transformation. However, developing a change management plan to support internal resources to thrive through the organisation's AI journey appears key to deriving sustained benefits from AI initiatives, particularly due to shortages in AI talent in the public sector [1].
- From a future of work perspective, AI-enabled workflows will include more time for focused work, collaboration and personal time as AI takes up decision support, assistant and admin tasks. This may lead to a shift in employee responsibilities, which will be important to consider integrating change management into our people strategy.
- The change required to shift towards new ways of working with AI can potentially alarm employees and cause clashes with worker unions. These commonly occur when work changes rapidly without sufficient training, adding additional workload and leading to a perceived risk to job security (particularly for those with entry-level roles). Such concerns can be addressed through a careful investment in employee training, a clear communication plan which emphasises the reality of the future of work, and updated role descriptions where necessary [2].

ROADMAP CONSIDERATIONS

Change Management & Communications Plan

Organisational Design

1. OECD State of the art | (oecd-ilibrary.org)
2. Unions: AI and Automation (hbr.org)

Related Resource 1:
us-gi-institute-state-of-gi-fifth-edition.pdf (deloitte.com)

Te Tiriti

STRATEGIC CONTEXT

Ensuring we support the Crown to deliver on our commitments to Māori under te Tiriti o Waitangi. In the context of AI, this aligns with commitments made as a signatory to the Algorithm Charter.

We aim to move closer to our aspirations of improving oranga by becoming te Tiriti-based, establishing this consideration as a crucial foundation for our approach to AI.

STAKEHOLDER FEEDBACK

We should formulate our AI strategy with particular emphasis on working in alignment with Te Kāhui Tūhono, as this would promote the values embedded in Te Tiriti.
Interviewee: Brijesh.

OPPORTUNITIES & CHALLENGES

- The contribution to oranga tāngata, oranga whānau and oranga whenua we have made has the potential to be greatly enhanced by AI initiatives that build on a meaningful, mutually beneficial partnership with Māori. There is an opportunity to engage with iwi Māori to raise awareness on the potential benefits of using AI for tax purposes, as well as to foster collaborative co-design, agreeing on system parameters of relevant AI tools and creating space in which mātauranga Māori can be shared.

RISKS

- Potential for tangata whenua to have a low appetite to engage with customer-facing AI solutions, due to a perception that AI will impact their right to control how services are delivered to them and how their information is utilised. This highlights the importance of transparency of AI tools and accountability, ensuring the AI tools are seen as trustworthy by both the organisation and the community.
- There is a risk that, if partnership with Māori is seen as a one-time engagement process, the full benefit of our AI initiatives may not be derived for Māori communities. Instead, collaboration with tangata whenua should be seen as a foundational element of our AI framework that will enable its broader success. As AI tools continue to evolve, the connections to Te Tiriti will also change and need to be considered on an ongoing basis. Specifically, fairness and transparency should be prioritised to foster equitable outcomes and align with the associated equity principle of te Tiriti.

KEY INSIGHTS

- The key principles of te tiriti are highly relevant when implementing AI initiatives. The protection of Māori interests and prevention of future harm should be front of mind, alongside the incorporation of mātauranga Māori in all initiatives. This is supported by strong partnership with Māori, and a willingness to prioritise participation and engagement with tangata whenua. Many Māori researchers are already involved in determining how AI can be made mana-enhancing and beneficial for Māori, and several academic workshops have been held across the country [1]. These efforts have been supported by Te Hiku Media, among others. These organisations are partnering to implement AI-enabled linguistic resources for te reo Māori, in collaboration with local iwi [2]. This ongoing initiative has received government funding [3] and provides a practical example of how effective partnership, underpinned by te Tiriti, can provide beneficial outcomes for Māori.
- When planning an AI initiative, the three voices framework can help with the synthesis of information from different knowledge sources across complex systems. Specifically, the voice of intent (legislation), voice of expertise (research) and voice of experience (community perspective) all come together to form a holistic view of how collective benefit can be derived for all involved [4].

ROADMAP CONSIDERATIONS

Te Tiriti Alignment

1. *Māori Speech Hui 2021 | Speech research @ UoA (auckland.ac.nz), Wānanga for Māori Artificial Intelligence: University of Waikato*
2. *Papa Reo (tehiku.nz)*
3. *Te Hiku Media Awarded $13M*
4. *Three Voices Infographic (Deloitte.com)*

Related Resource 1: Ngā mātāpono o te Tiriti o Waitangi (teara.govt.nz)

Training & Fluency

STRATEGIC CONTEXT

Cement AI fluency within our organisation to prepare for the future of work.

We are committed to ensuring that the organisation has access to the right capabilities and personnel as work in the tax sector evolves. The AI Working Group already has several relevant initiatives in its backlog, including a Learning and Development plan and a Review of Capabilities. Tackling this consideration will be essential to foster ongoing learning in our workforce and keep pace with AI trends.

STAKEHOLDER FEEDBACK

Training and fluency in AI are deemed essential, with a current low maturity level acknowledged. Importance is placed on people, highlighting capabilities and subject matter expertise. There is a strong presence already within the Data and Analytics space and a suggested reliance on partners for specialist tasks. A Shared Responsibility Model is suggested regarding training. Interviewees: James, Mike, Tina, Mary, David.

OPPORTUNITIES & CHALLENGES

- Investing in workforce development to enhance AI fluency is essential for us to adapt to the evolving digital landscape and harness the full potential of AI [1][2][3]. Prioritising AI notably creates an opportunity to attract new, highly skilled talent to the organisation. Particularly, internships and immigration pathways will play an important role here.
- We have an opportunity to develop a central knowledge management repository that can support employees to engage with AI initiatives and upskill in this regard. Any developed training materials should be comprehensive and engaging, and ongoing support should be provided to foster employee uptake.

RISKS

- The challenge in attracting and retaining skilled personnel poses a significant risk, potentially hindering the effective implementation and growth of AI capabilities within IR [1][2]. This could in turn impact our ability to safely adopt AI, as insufficient knowledge of how to work well with AI creates a risk of misuse and suboptimal outcomes.
- A skills gap in AI and data science within the public sector may limit the ability to develop and deploy effective AI solutions, necessitating focussed efforts in workforce training and development [3]. It will be useful for us to undertake a capability assessment to identify where our workforce stands in its knowledge of AI tools and techniques, including the skills needed to work *with* AI, and align on an action plan to develop internal capability or seek available talent externally in applicable areas.

KEY INSIGHTS

- Half of government agencies consider a lack of internal capability to be one of their biggest barriers to taking advantage of AI [4]. This can translate to low AI fluency and, commonly in the tax sector, a shortage of skilled professionals with enough experience and available time to provide feedback on proposed AI use cases. Notably, enabling tax professionals to effectively work alongside data scientists can lead to more insightful data analysis and decision-making [5]. For example, we could include non-technical workers as testers on pilot projects in sandbox environments, soliciting their feedback regularly.
- Research suggests that employees who embrace the power of working with AI tend to thrive [6]. As AI is implemented for the most tedious tasks, many tax professionals will be freed up from administrative tasks such as reporting and analysis to focus on higher value activities like executive management and complex problem solving. Educating our workforce on how to apply new AI tools to domain-specific tasks with appropriate oversight will become of utmost importance, as well as emphasising the human aspect in AI integration and the continued importance of curiosity, creativity and critical thinking [2]. Learning pathways should additionally focus on responsible use of AI, including understanding the limitations of AI and accounting for local regulations and trustworthy AI best practice [7].

ROADMAP CONSIDERATIONS

Capability Assessment

Learning & Development Plan

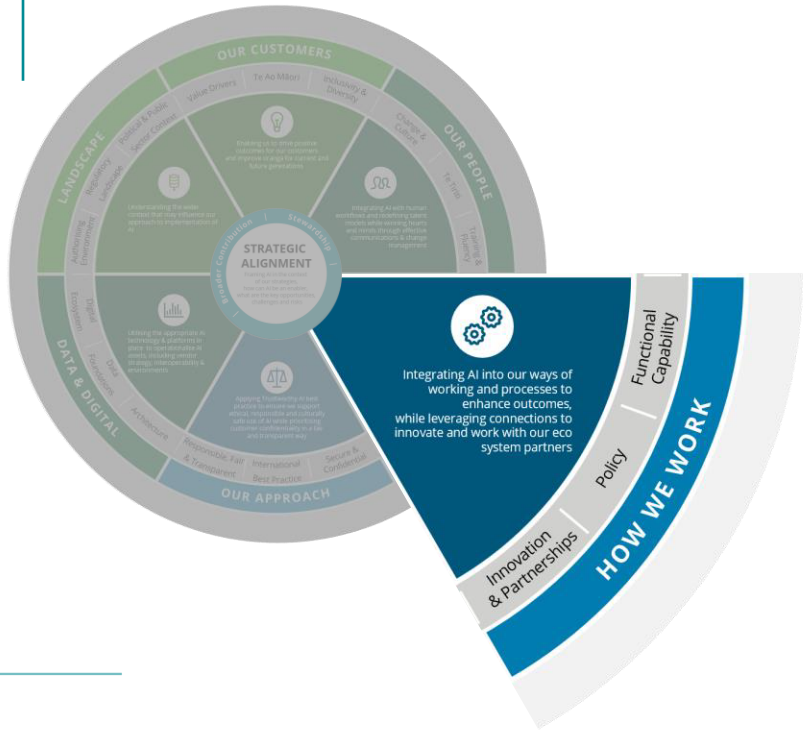
Senior Leadership Fluency Programme

1. *Building the digital revenue agency of the future*
2. *Artificial intelligence entering the world of tax*
3. *Crafting an AI strategy for government leaders*
4. *state-of-ai-fifth-edition.pdf (deloitte.com)*
5. *Us tax working and thriving in a digital tax world*
6. *thriving-in-a-digital-tax-world (deloitte.com)*
7. *Training next-gen AI talent*

How We Work

Innovation & Partnerships	Policy	Functional Capability

- **Functional Capability:** Ensuring we have a consolidated functional capability is vital to enhance our technical preparedness to adopt AI solutions, balance the automation of routine tasks, and empower our employees for higher-value work, thereby enhancing Inland Revenue's operational effectiveness and adaptability in the digital era.
- **Policy:** Given the crucial role of AI policies in seamlessly integrating AI within our operations, we must focus on framing internal policies for AI to balance compliance needs, ensure data integrity, and manage risks associated with data privacy and protection. This focus supports the broader theme of how we work, shaping it for an increasingly digital and AI driven context.
- **Innovation & Partnerships:** Focusing on how we apply AI to enhance our operational efficiency, we need to foster diverse partnerships and utilise novel technologies, balancing the innovation drive with ethical standards, privacy and data integrity considerations.



Inland Revenue
Te Tari Taake

Functional Capability

STRATEGIC CONTEXT

Ensure we are prepared to thrive in the next stage of its journey with AI from a technical standpoint.

Our organisational functional capability is a crucial consideration in formulating an approach to AI, in order to ensure our technical preparedness to adopt AI solutions and support cross-functional capability across government. The focus is on how the appropriate technology can made available and leveraged to augment human capabilities across the business groups, thereby impacting our operational effectiveness and adaptability in the digital era.

STAKEHOLDER FEEDBACK

Stakeholder feedback suggested a need for coordinated and efficient utilisation of resources with a specific focus on timely and context-driven application. This is set against the background of system stewardship, with emphasis on mitigating risks in case of system errors. Furthermore, there's a strong indication towards streamlining customer communication, engaging advanced digital technologies, and fostering processing efficiencies. A notable use case for AI is in the complex fraud area. Manual efforts for tasks such as annual tax risk reviews should be reduced with AI facilitating both data input and decision-making processes.
Interviewees: Mary, Cate, Anil, James, Dan, Mike, Lisa.

OPPORTUNITIES & CHALLENGES

- Consolidating functional capability will help us to optimise resource allocation and operational efficiency across the business groups by implementing a variety of AI solutions in order to balance the automation of routine tasks with the empowerment of employees for higher-value work [1][2].
- We have the opportunity to engage with a range of third party vendors to bring in the technical services required for service delivery. However, we may like to maintain a level of technical capability internally in order to support the development of any high-risk use cases which involve highly sensitive data or require custom features. As such, this strategic consideration can help to inform discussions as we decide whether to build certain solutions in-house or buy them from external providers.

RISKS

- There is a key risk associated with not leveraging AI capability. We already face AI-enabled cybersecurity threats, and these are only set to increase. Consolidating our access to the technology needed to drive responsible AI implementation will act as a layer of protection from these threats. This aspect is also worth bearing in mind as we choose how we will play in the AI space, such as whether the organisation acts as a leader in adopting AI use cases or a follower who waits to see AI solutions tried and tested by others first.
- The risk of stagnation in 'pilot purgatory' highlights the need for a strategic approach to scale AI solutions from pilot to full implementation, ensuring ongoing advancement and adaptation [3][4].

KEY INSIGHTS

- The importance of a scalable and adaptable approach to AI is clear. Moving beyond initial pilots to full scale AI deployment requires a strategic focus on data management and technological infrastructure [3].
- Enhanced functional capability enables high quality AI-enabled solutions, which can in turn can foster greater productivity and enhanced staff experience. A recent study looked at the impact of Generative AI on customer service centres, finding that productivity improvements were high, particularly for less-experienced workers. With an AI assistant to pinpoint the relevant parts of the documentation and draft responses for a given query, agents were able to resolve 13.8% more chats per hour [5]. This use case has also been shown to foster better consistency in staff outputs and decisions made [6]. In our context, AI has the potential to increase accessibility for tasks in the tax function that were previously only able to be completed by senior staff. However, these benefits will only be realised if functional capability is sufficient to support PoCs, pilots and eventually productionised solutions in this area.

ROADMAP CONSIDERATIONS

AI Environment Scan

1. *AI augmented government*
2. *DI CGO state of AI for gov*
3. *DI CGO state of ai for gov*
4. *Us tax working and thriving in a digital tax world*
5. *Workers gain the most from generative AI | MIT*
6. *Generative AI (forbes.com)*

Policy

STRATEGIC CONTEXT

Confirming how we will use policy to support the seamless integration of AI capabilities into its workflows.

Our AI policies will play a crucial role in framing how the organisation works. It ensures that AI applications are integrated seamlessly into existing frameworks, aligning with both internal governance and external regulator requirements. This integration is vital for maintaining the integrity and effectiveness of our operations in an increasingly digital and AI driven landscape.

STAKEHOLDER FEEDBACK

The policy consideration stresses the significance of defining what constitutes AI versus GenAI and the varied workstreams, risks, and practical results associated with each. It also emphasises the governance of the implementation process, ensuring appropriate conversations with well-informed individuals to leverage their expert knowledge.
Interviewees: Cate, Tina.

OPPORTUNITIES & CHALLENGES

- By leveraging AI, we can enhance compliance and encourage voluntary participation in the tax system, much like the Danish model, which successfully integrated sharing economy transactions into the tax framework [1]. However balancing the compliance costs and burdens for stakeholders is a key challenge in this approach.
- The operational policy must address the quality and management of data, as AI's effectiveness hinges on high quality, consistent and accurate data. Ensuring data integrity is vital and introducing new operational policies presents the opportunity to reset and create better organisational practices for data collection and storage[2].
- Policy and guidelines must be put in place to determine who is responsible for the decisions made or derived using AI.

RISKS

- Policies need to account for the risks associated with data privacy and protection, especially considering regulations which place restriction on automated decision making and profiling. [3]
- Operational policy must include mechanisms to continuously evaluate and mitigate biases in AI algorithms and secure sensitive financial data against unauthorised access or breaches. [4]
- There is a need for clear documentation and enforceable processes to address ethical risks, such as bias or misuse of AI, underlining the importance of robust governance structures.[2]

KEY INSIGHTS

- Effective governance structures are essential to instill trust and confidence in AI systems, especially in addressing issues of bias and discrimination [2].
- Establishing a centre of excellence or similar structures can help in developing best practices, sharing knowledge, and ensuring the quality of AI deployments [2]
- Documenting and enforcing machine learning operations (MLOps) is crucial for the ethical and effective deployment of AI, as it facilitates addressing any issues with AI models. [5]
- Embracing new operational models and processes is vital for leveraging AI in a way that drives sustained quality, innovation and value creation[5].

ROADMAP CONSIDERATIONS

AI Policies & Guidelines

1. *Building the digital revenue agency of the future*
2. *DI crafting an AI strategy for govt leaders*
3. *Ddtl tax artificial intelligence in tax*
4. *Us Deloitte the implications of generative*
5. *State of ai for government*

Innovation & Partnerships

STRATEGIC CONTEXT

Leveraging our relationships to enhance our AI capability while using our maturity to lead and support the wider public sector.

It's key for us to focus our strategic considerations for innovation and partnerships in AI on leveraging diverse ecosystems and integrating digital solutions. This approach is pivotal in maintaining a competitive position and enhancing operational efficiency within the tax system.

STAKEHOLDER FEEDBACK

A common theme to emerge was the potential of cross-government guidance and alignment with OECD Tax Admin 3.0 policies. The utility of Shared Responsibility Model is highlighted, with an underlying need to maintain the integrity of the tax system.
Interviewees: Mike, Mary, Cate, James, Tina.

OPPORTUNITIES & CHALLENGES

- High-achieving organisations, including government agencies, benefit from a diverse ecosystem of partnerships, leading to better AI implementation and improved organisational outcomes [1][2]. We have the opportunity to work with other government agencies through the AoG AI Programme of Work, as well as in collaboration with ecosystem partners to better deliver AI-enabled services to New Zealanders.
- Effective communication and collaboration, often through formal training programs, enable tax departments to evolve into more competent advisers, enhancing both risk management and department performance. Learning and sharing with partners offers significant opportunity to accelerate maturity progression[3].
- Deciding how to leverage each strategic partnership is as critical as the choice of partners. This involves balancing a streamlined approach with the need for diverse perspectives and capabilities [1].

RISKS

- While collaboration is key, there's a risk in over-relying on external partners, potentially compromising our ability to maintain any competitive advantage and independence [1].
- Collaborations, especially those involving data sharing and AI implementation, must navigate ethical frameworks and privacy concerns, ensuring adherence to standards and mitigating bias [4][5].
- The integration of AI technologies from various partners can pose challenges in terms of compatibility with existing systems, maintaining data integrity and security, and legal implications [5].

KEY INSIGHTS

- Collaboration with diverse partners, including industry and academia, can spur innovative solutions, as seen in examples from government agencies using AI for public benefit [4][6].
- While partnerships are valuable, developing differentiating in-house capabilities ensures sustained competitive advantage and strategic autonomy [1].
- Ethical frameworks and toolkits are essential in AI implementation, promoting privacy, reducing bias, and ensuring diverse and inclusive design teams [4].
- Effective collaboration aligns with the organisation's broader business goals, enhancing overall performance and driving digital transformation [5]
- To excel we could decide to be agile and reactive to innovations led by other organisations or we could choose to lead and innovate new technologies with partners. The initial option risks failure to adopt quickly enough and the latter option risks introducing technology unfit for purpose respectively, however each approach has high possible reward.

ROADMAP CONSIDERATIONS

Cross-agency Initiatives

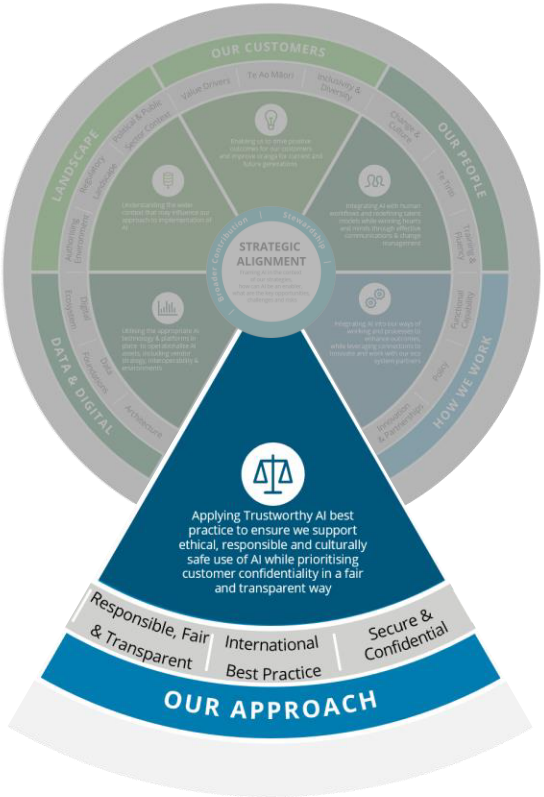
Natural Systems Guidance

1. DI_CIR_State-of-AI-4th-edition.pdf (deloitte.com)
2. Scaling AI in government How to reach the heights of enterprise wide adoption of AI (deloitte.com)
3. us-tax-working-and-thriving-in-a-digital-tax-world.pdf (deloitte.com)
4. Crafting an AI strategy for government leaders | Deloitte Insights
5. DI_building-the digital-revenue-agency.pdf (deloitte.com)
6. DUP_AI-augmented-government.pdf (deloitte.com)

Our Approach

Responsible, Fair & Transparent	International Best Practice	Secure & Confidential

- **Responsible, Fair & Transparent:** We are committed to designing and operating our AI systems in a socially responsible way, providing fair and equal treatment for all and maintaining a level of transparency that all users can understand and trust.
- **Secure & Confidential:** As the custodians of New Zealand's tax data, we must prioritise implementing Trustworthy AI principles to ensure robust security and confidentiality measures, which are intrinsic to maintaining trust and confidence.
- **International Best Practice:** Leveraging insights from international standards and collaborating with international bodies will enable us to design AI-related frameworks well-tailored to New Zealand's context, while facilitating efficient learning transfer and enhancing organisational transparency at Inland Revenue.



Inland Revenue
Te Tari Taake

Responsible, Fair & Transparent

STRATEGIC CONTEXT

A socio-technical ecosystem enabling AI that is ethical, lawful and technically robust. It is achieved through governance of AI risks across people, processes and technology – in a systematic fashion, leveraging an impact-based tiering approach.

As the adoption of AI grows, so too does the need for fostering trust and accountability. Compared to private sector organisations, government agencies face additional legal and risk constraints when it comes to AI adoption. It is imperative to ensure everyone can understand and scrutinise how their data is being used by us, how AI decisions are being made, and who is responsible for them.

This is consistent with our Stewardship role – as set out in the Enterprise Strategy, we have a responsibility to ensure that any AI solutions implemented are trustworthy to be fit for purpose today and tomorrow.

STAKEHOLDER FEEDBACK

We must be responsible, fair and transparent in our application of AI. This involves effective risk management against malicious actors and bias, maintaining the integrity of the tax system, and ensuring rigorous testing and explainability of AI models. The credibility and trustworthiness of the AI system is crucial, hence, security, anonymity regarding Personal Identifiable Information (PII), and an absence of bias in practice are paramount. Also, engaging experts and improving knowledge, especially among decision-makers, on ethics and data governance is essential to avoid potential public relations issues related to AI use. Interviewees: James, Cate, Anil, Tina, Lisa.

OPPORTUNITIES & CHALLENGES

- We have the opportunity to introduce guardrails embedding Trustworthy AI principles early in AI journey, ensuring AI systems are responsible, reliable, fair and transparent.
- Responsible: Create and operate the technology in a socially responsible manner, with clear accountability of who is responsible for decisions made using AI systems.
- Robust & Reliable: Confirm that AI functions properly beyond pilot stage, producing consistently accurate, relevant outputs.
- Fair: Guard against illegal and unethical discrimination, ensuring equitable treatment of all.
- Transparent: Help users (IR employees / the public) understand how their data can be used and how AI systems make decisions.

RISKS

Most organisations are still grappling with the risks associated with traditional AI, and Generative AI brings renewed attention to these. We should seek a balanced view of value creation opportunities with risks involved. Examples include:

- Generation of misleading or false content, potentially causing confusion or harm to users who blindly rely on the generated output – e.g. our employees using Generative AI knowledge tools without proper training.
- Users may not be aware that specific IR content was machine-generated. We must communicate how the system works and build transparency and trust.
- Bias in the underlying data is a risk that can be amplified when AI models are trained on them – e.g. public-facing AI assistant less able to answer questions from certain socio-economic groups due to lack of past examples, perpetuating barriers to use.

KEY INSIGHTS

- New Zealand government agencies have established a foundation for responsible AI through initiatives like the Algorithm Charter and the AI Governance website from AI Forum NZ [1]. Whilst these resources are helpful, they need to be tailored to ensure there is a sufficient level of detail and relevance to our unique context. This is especially important when thinking about who should be responsible from an organisational perspective and striking the right balance between enhancing and protecting tax and social policy systems. To ensure good stewardship, we should take an IR specific approach to aspects such as an AI Risk Assessment (tailored to our needs), and MLOps (tailored to the development systems in play at IR).
- Additionally, global frameworks may be leveraged. Most notably, the NIST AI Risk Management Framework which has been adopted by other agencies in the New Zealand public sector. [2] The recently published ISO 42001:2023 AIMS can be leveraged alongside NIST to develop a robust AI risk and controls library in the near term, and work towards compliance in the longer term [3].
- It is important that an AI Risk Management Framework be established. Our risk team must be aware of how to manage this framework and potential risks, but awareness and compliance must also extend across all of IR [4].

ROADMAP CONSIDERATIONS

AI Risk Framework | AI Risk Assessment

AI Governance Framework | AI Governance Pilot

1. AI Forum NZ - AI Governance
2. AI Risk Management Framework | NIST
3. ISO 42001:2023 AIMS Standard
4. AI in Government Services

Secure & Confidential

STRATEGIC CONTEXT

To maintain trust and confidence, it is paramount in today's data-driven landscape to ensure the security and confidentiality of AI.

It is important to implement robust measures to safeguard sensitive information and protect against risks, including data breaches, that may cause physical and/or digital harm. Privacy must also be respected, and consumer and employee data should not be used beyond its intended and stated use.

This is also consistent with our Effective and Efficient role – as set out in the Enterprise Strategy, we have a responsibility to use our knowledge, resources and capabilities wisely.

STAKEHOLDER FEEDBACK

We should prioritise risk management, information security and elimination of bias, to preserve the integrity of the tax system. Ensuring model explainability, stringent testing and maintaining the anonymity and security of Personally Identifiable Information (PII) is crucial. Developing deep expertise and building capability relating to ethics and data governance are important points. It is vital to accommodate the evolving advances yet ensuring sensitive data is securely held for the credibility of both the tax system and the organisation.
Interviewees: James, Anil, Tina, Lisa.

OPPORTUNITIES & CHALLENGES

- We have the opportunity to introduce guardrails embedding Trustworthy AI principles early in our AI journey, ensuring AI systems are secure and confidential.
- Preserving Privacy: Train AI models on representative data without compromising sensitive sources of training data.
- Safe & Secure: Ensure that the technology, and the data that feeds into it, is protected from risks that may cause individual and/or collective physical, emotional environmental, and/or digital harm.

RISKS

Most organisations are still grappling with the risks associated with traditional AI, and Generative AI brings renewed attention to these. We should seek a balanced view of value creation opportunities with risks involved. Examples include:

- The risk of individual and / or collective physical, emotional and/or digital harm – e.g. prompt injection attack leading to data leakage and/or inaccurate tax advice (due to prompt/data poisoning).
- Where employing cloud architecture to host or run AI systems, this is subject to the same security risks as all cloud technology. Most notably, the risk of data breach, which results in a loss of customer trust, reputational impact, as well as regulatory fines & penalties.
- The risk of re-identification of data subjects in an anonymised dataset, using AI technology, by external players or employees (insider threat).
- AI technology is data hungry, and it can be tempting to use data for purposes beyond its initial intended use – resulting in data being used in ways not understood by customers and employees, or not permitted by agreements with them.

KEY INSIGHTS

- There is increased guidance from the Privacy Commissioner on Artificial Intelligence and the Information Privacy Principles [1]. These may provide a useful starting place in understanding our security and confidentiality needs.
- Additionally, global frameworks may be leveraged. Most notably, the NIST AI Risk Management Framework which has been adopted by other agencies in the New Zealand public sector [2]. The recently published ISO42001:2023 AIMS can be leveraged alongside NIST to develop a robust AI risk and controls library in the near term, and work towards compliance in the longer term [3].
- To ensure effective and efficient leadership, an IR specific approach should be taken to ensure confidentiality and integrity is maintained. This could be achieved through tools such as the AI Impact Assessment (tailored to our needs), and MLOps (tailored to the development systems in play at IR).

ROADMAP CONSIDERATIONS

AI Risk Framework | AI Risk Assessment

AI Governance Framework | AI Governance Pilot

1. AI-and-the-Information-Privacy-Principles.pdf
2. AI Risk Management Framework | NIST
3. ISO 42001:2023 AIMS Standard

International Best Practice

STRATEGIC CONTEXT

Using global context to inform our navigation of AI-related risks as New Zealand's tax authority.

International standards will set a benchmark that we may aim to meet or surpass when defining our approach to AI. This consideration feeds into Te Pou o te Tangata, in that it involves seeking diverse perspectives to inform the work we do.

STAKEHOLDER FEEDBACK

Tax Admin 3.0 is a key area of focus

OPPORTUNITIES & CHALLENGES

- There may be an opportunity to partner with an international body to co-design AI-related frameworks, building on existing standards and ensuring relevance to the specific New Zealand context. In 2020, the New Zealand government partnered with experts from the World Economic Forum in a pilot project to design a fit-for-purpose governance framework, producing recommendations to be fed into future work [1]. Any further collaboration in this space has the potential to be highly beneficial to IR, as international best practices can be directly incorporated into local strategy.
- Learning and sharing enables efficient learning transfers as well as improves organisational transparency. We could leverage this to solidify relationships and capability

RISKS

- The current international AI regulation landscape is in a period of great change. The EU currently relies on existing legislation (GDPR, Digital Services and Digital Markets Act) to govern algorithms, but the AI Act with its associated standards of quality and safety is expected to be passed into law over the next few months . The US, on the other hand, does not currently have any legislation on AI usage at the federal level, and instead has guidelines outlined in the AI Bill of Rights and President Biden's recent Executive Order on the topic [2]. These different approaches create a complex environment to navigate when seeking to identify best practices internationally.

KEY INSIGHTS

- We can draw upon insights from existing risk standards from overseas, such as the NIST AI Risk Management Framework. This framework targets the design and implementation of trustworthy AI in practice, and is already being used by other New Zealand public sector agencies including ACC. Specifically, the core of the framework introduces four elements that should be sustained to ensure adequate risk management. Namely, these include mapping risks to relevant real-world context, measuring risk impact along multiple dimensions and managing risk mitigation through prioritisation, all underpinned by a governing culture of risk management [3].
- AI principles defined by the OECD can also provide a helpful baseline, as several mirror our own aspirations, including enhancing wellbeing for people and planet and responsibly navigating the risks as stewards of the tax system and associated social policies. These guidelines also outline how AI can be best implemented in the public sector setting to support digital government, including frameworks to maintain transparency of public sector data-driven decision-making [4]. This may build into our thinking around Tax Administration 3.0, which prioritises digital transformation to integrate with the natural systems that taxpayers interact with daily [5], targeting tax rule management through AI.

ROADMAP CONSIDERATIONS

AI Risk Framework | AI Governance Framework

1. WEF_Reimagining_Regulation_Age_AI_2020.pdf (weforum.org)
2. White House AI Executive Order | Brookings
3. nvlpubs.nist.gov/nistpubs/ai/NIST.AI.100-1.pdf
4. AI-Report-Online.pdf (oecd-opsi.org)
5. Tax Administration 3.0 (oecd-ilibrary.org)

Data & Digital

Digital Ecosystem | **Data & Information Foundations** | **Architecture**

- **Architecture:** It is imperative that we continue to ensure a robust and adaptable technology infrastructure that can not only handle increased AI workloads, but also be flexible enough to leverage multi-cloud technologies and manage potential risks associated with outdated systems, to support IR's journey towards being an AI-empowered organisation.
- **Data/Information Foundations:** We recognise that establishing robust data foundations directly underpins our ability to effectively deploy AI, enhancing decision-making, processes and cybersecurity, within the wider context of our Data & Digital segment. These include considerations for not just transactional data but information and knowledge as well.
- **Digital Ecosystem:** To successfully implement our AI strategy, we need recognise the importance of establishing a diverse and well-managed digital ecosystem, harnessing relationships within it for actionable insights, while mitigating risks of overdependence on specific vendors.

Inland Revenue
Te Tari Taake

Architecture

STRATEGIC CONTEXT

Ensuring that we have the architecture and systems in place to support the transition to an AI empowered organisation.

In developing an approach to AI implementation, architectural considerations are critical. An appropriate architecture must be established to manage the projected AI workload, factoring in high bandwidth, low latency, and flexible architectures. This extends to the multi cloud strategy, examining the suitability of transitioning computational systems to the cloud, with an eye to data analysis enhancements. Furthermore, realising a metadata-informed analytics techniques necessitates careful preparation of existing and future data through rigorous cleansing processes.

STAKEHOLDER FEEDBACK

The architecture should be enabled to consume data and provide insightful information, leveraging the power of existing cloud infrastructure like AWS Sydney. Furthermore, the preference from some team members is towards AI solutions as a service, with an expectation for vendors to add significant value.

Interviewees: James, Mary, Cate, Mike, Malcolm.

OPPORTUNITIES & CHALLENGES

- The use of outdated or poorly documented systems within the technical architecture of IR can be a hindrance, as these constraints could limit our ability to manage risks and adapt to the required capabilities for successful AI implementation.[1]
- The effective deployment of AI may require a heavy redesign or improvement of technical architecture, this could be an opportunity to consider high bandwidth, low-latency, and flexible architectures to allow for efficient AI application deployment.[3]
- The implementation of AI at scale requires a different array of organisational capabilities compared to smaller scale projects or proofs of concept. It would therefore be challenging to translate the success of small pilots to a larger scale without also evolving the supporting architecture.

RISKS

- If current architecture is significantly based on outdated machine languages, it may pose challenges as these systems could potentially be incompatible with emerging technologies like artificial intelligence. If not addressed, these technical impediments could potentially lead to financial burdens and create unfavourable outcomes for citizen services in the long-term.
- Scaling from pilot projects to production level AI applications is a major shift that would require us to have infrastructure capable of handling the increased workload. If existing capacities cannot meet the required infrastructure demands, both in terms of processing power and bandwidth, we may face significant performance issues.
- Dependence on a single vendor for AI technologies can lead to limitations in flexibility and adaptability. This could inhibit the ability to incorporate new advancements in technology or switch to better solutions, thereby posing a risk to the long-term success of our AI initiatives.

KEY INSIGHTS

- Before implementing AI systems, we must comprehensively assess our current technology architecture. This not only includes technical compatibility but also whether the existing setup can handle expected AI workloads, especially when transitioning from a pilot phase to a production solution. These preparatory measures are crucial to avoid overburdening the system and ensure seamless integration of AI applications.
- Prior to deploying AI solutions, we must test and adapt our technology architecture. This ensures it can handle the demands of such advanced technologies. Testing and modifying the architecture prior to rolling out solutions are crucial steps to guarantee a successful implementation of AI across IR [2].
- Successful AI integration heavily depends on high bandwidth, low-latency, and flexible technical architecture such as multi cloud. Beyond merely scaling up a proof of concept, this includes implementing robust systems capable of handling increased AI workloads and assuring data quality [3].
- Tax systems are forever evolving due to changing policy mandates. It is key that we adopt a modular and flexible approach to system architecture, allowing for rapid adaptations and improvements as and when necessary. This can help future-proof our AI capabilities and ensure they can harness emerging technologies as they evolve.

ROADMAP CONSIDERATIONS

Architecture Review | Platform & Automation (MLOps)

1. DL_building-the digital-revenue-agency.pdf (deloitte.com)
2. DL_Crafting-an-AI-strategy-for-govt-leaders.pdf (deloitte.com)
3. Scaling AI in government | Deloitte Insights

Data (& Information)Foundations

STRATEGIC CONTEXT

High performance AI requires high quality, accurate and accessible data, information and knowledge.

Data and information foundations are a critical strategic consideration as they support the accessibility, quality and security of the vast amounts of data necessary for AI solutions to function optimally. This directly ties into the larger Data & Digital pillar, as effective data foundations work in harmony with our architecture and digital ecosystem, underpinning our ability to harness AI's potential to enhance key processes, enable insightful decision-making and guard against cyber threats.

STAKEHOLDER FEEDBACK

We demonstrate sound data and information maturity, having made significant investments into modernisation, which positions us favourably compared to other government agencies. The extensive renewal of systems ensures processes efficiently convert raw data into a format suitable for analytics. However, the need for strengthened data governance and quality management processes is crucial, with an emphasis on maintaining accuracy and relevance. Furthermore, channel content data consistency is highlighted to support corresponding use cases. Interviewees: Mary, Cate, Mike, Tina, James, Dan.

OPPORTUNITIES & CHALLENGES

- With the right data and information strategy, there exists a significant opportunity to unlock the hidden power of data. By identifying relevant datasets and creating platforms for data accessibility, the quality and effectiveness of AI can be vastly improved [1][2][3].
- Revenue agencies have a unique opportunity to treat data and information as an asset. By investing in data quality and governance, agencies can ensure AI enhanced taxation and compliance processes, thereby facilitating better decision making and more accurate tax collection [1][2].
- The sheer volume and variety of data/information can pose a serious challenge to revenue agencies. Overcoming this challenge requires an investment in processes that validate and enhance data quality. Inaccurate or poor-quality data can undermine AI effectiveness and lead to incorrect tax outcomes. [1]

RISKS

- There's an inherent risk of being overloaded by the vast volume of data generated by digital transactions. By not being equipped to handle these data flows, the effectiveness of AI outcomes could be compromised [1]
- Inadequate data/info governance and unclear roles or accountability could lead to security vulnerabilities or compliance issues. Mismanagement of data can lead to unauthorised access or data misuse, posing significant risks to the operation and reputation of the agency [2]
- Failing to identify relevant datasets or provide platforms for their access poses a risk for AI implementation at IR. Inadequate access to vital data could limit the potential of AI initiatives or lead to subpar results. Moreover, if data is used to answer basic questions rather than develop deep insights, there is a risk of under-utilising the sources present [3]

KEY INSIGHTS

- We must approach data/information as both our most significant advantage and challenge [1]. It's vital to deploy resources to convert these vast data inflows into actionable insights. We must understand how to unlock the potential of new types of data while ensuring citizens' privacy and serving the public good.
- A concrete data/information strategy and governance model are imperative [2]. It involves outlining clear roles and accountabilities for business and system owners and stewards. This model also provides guidelines for dealing with security, privacy and compliance issues, ensuring the data's integrity, consistency and reliability.
- Data/Information is a crucial ingredient for successful AI implementation [3]. Agencies need to distinguish and gain access to the crucial datasets for their operations. It is particularly important to develop platforms to access the identified data effectively. These platforms can improve the readiness and success rates of deploying AI in tax duties [3].

ROADMAP CONSIDERATIONS

Roll-out Plan for Pilots & PoCs

Technical Maturity Assessment

1. *Building the Digital Revenue Agency of the Future | Deloitte Luxembourg | Public Sector*
2. *DI_Crafting-an-AI-strategy-for-govt-leaders.pdf (deloitte.com)*
3. *Scaling AI in government | Deloitte Insights*

Digital Ecosystem

STRATEGIC CONTEXT

We will need to utilise wider digital partners and technologies to ensure successful implementation of AI.

For a robust approach to AI implementation, considering the digital ecosystem is essential as it not only provides the necessary breadth and diversity but also safeguards the organisation against overdependence and limits on innovation. Under the Data & Digital pillar, this aspect recognises the significance of having a healthy mix of partners, technologies, and data sources for continuous growth and competitiveness in the evolving AI landscape.

STAKEHOLDER FEEDBACK

We recognise the crucial role of a robust digital ecosystem in our AI strategic considerations. A key consensus is the necessity for clean, useful data as a primary foundation before layering any AI applications on top. Both the use of external partners for technology development and managing applications handling Personally Identifiable Information (PII) internally were emphasised. The potential role of third parties is acknowledged, with the understanding that these partners could help consolidate data from different sources as well as assist in employing AI technology. Interviewees: Dan, James, Anil, Tina, Lisa.

OPPORTUNITIES & CHALLENGES

- Leveraging data ecosystems can offer the opportunity to unlock the next level of actionable insights, serving citizens more effectively and enabling richer decision making. This calls for an emphasis on not only developing internal capabilities, but also on building robust technology, ecosystems that capitalise on diverse external entities with distinct strengths [1][2][3].
- Balancing the risk and reward of data sharing is a common challenge in the public sector and requires considerable trust amongst all participants to ensure sustained data sharing. The continuous advancement and adoption of new technologies, standards and ethics for data use can help ease these challenges and accelerate sharing, but maintaining trust will be a persisting consideration [1].
- When interacting with the broader digital ecosystem during procurement, we should aim to clearly articulate business needs to vendors and establish suitable frameworks so that desired outcomes can be met while ensuring integrity and control.
- By embedding compliance into business transactions with Tax Admin 3.0 and integrating tax processes with Natural Systems, efficiency is amplified, and tax gaps are minimised. These improvements encourage timely tax fulfilment, directly curbing uncollected debts and revolutionising the taxation framework.

RISKS

- Trust is key to the health of the digital ecosystem, however it can also be a risk if not properly managed. Trust can be established through good governance models and clear rule agreement among all ecosystem members [1].
- Relying heavily on a few vendors or partners can lead to overdependence or 'vendor lock', stifling innovation and causing difficulties in transition to new vendors in the future, which could trigger substantial disruption. A diverse ecosystem and integrating with a variety of vendors, including those emerging or niche, could mitigate this risk [3].
- The management of the relationships within the digital ecosystem is an essential element, posing a risk if not executed effectively. Deciding how to leverage each relationship is just as important as deciding who and how many to have within the ecosystem. Properly managed, these relationships can enhance operation [3].

KEY INSIGHTS

- A well-orchestrated data ecosystem can offer the opportunity to unlock the next level of actionable insights. Interoperability, enabled by a well-thought-out ecosystem, can provide richer insights and more effective service to citizens. Our approach to AI should therefore focus on harnessing the potential of the relationships within this ecosystem to leverage data for faster, better decision-making [1].
- Trust forms a key ingredient for a sustainable digital ecosystem, especially when it revolves around data. All participants need to assure that data is protected as if it were their own. Our culture could also play a vital role in its willingness to adopt new technologies and adapt to changes in its operating system [1].
- To harness the full potential of AI, it's paramount to establish a diverse digital ecosystem. This ecosystem could range from existing technical solutions to partners across various sectors, including academia, industry, and governmental bodies. Such diversity provides technological agility to access a broad spectrum of AI-based solutions and helps avoid the risks associated with vendor lock or overdependence on a single entity. This, in turn, can expedite progress towards AI implementation at scale and enhance organisational readiness to adapt to any changes in the operating ecosystem [2][3].
- The implementation of Tax Admin 3.0, through integration with taxpayers' natural systems using AI, promises a revolutionary shift towards real-time taxation. This approach enhances compliance, reduces administrative burdens, and addresses current structural limitations in tax governance, ultimately creating a more efficient, inclusive, and streamlined tax administration.

ROADMAP CONSIDERATIONS

Procurement & Vendor Management

Roll-out Plan for Pilots & PoCs | AI Sandbox

Ecosystem Partner Collaboration

1. DI_CDO-Playbook-2023 (deloitte.com)
2. Scaling AI in government | Deloitte Insights
3. DI_CIR_State-of-AI-4th-edition.pdf (deloitte.com)

Landscape

Authorising Environment	Regulatory Landscape	Political & Public Sector Landscape

- **Wider Regulatory Landscape:** We recognise the importance of monitoring and adapting to global AI regulation trends and changes, in order to ensure future-focused regulatory compliance and uphold the stewardship of New Zealand's tax system.
- **Political & Public Sector Landscape:** Navigating the mutable political landscape and public sector expectations is crucial in our AI strategy, as it informs our initiative's flexibility, public acceptability, and alignment with government and taxpayer expectations.
- **Authorising Environment:** We hold a unique legislative authority that enables us to pioneer AI applications in the public sector, making our understanding and navigation of the authorising environment crucial to the successful and ethical implementation of our AI strategy.

Inland Revenue
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Wider Regulatory Landscape

STRATEGIC CONTEXT

Planning for the implications of New Zealand's evolving compliance environment on AI activities at IR.

We are dedicated to creating a wellbeing legacy for those to come, as well as demonstrating integrity of process as well as outcome (mahi tika). To achieve this, it will be essential to align with applicable AI standards and ensure the use of AI does not jeopardise compliance with various legislation and legal frameworks including tax, intellectual property, copyright law, and content/ data ownership across various jurisdictions.

The AI Working Group has already drafted internal guidelines along these lines.

STAKEHOLDER FEEDBACK

Feedback revolved around jurisdiction and data storage location, with a need for increased transparency in AI use within procurement and vendor management processes. Stewardship and the right to audit providers if necessary are paramount, leveraging on the mature existing governance processes. Interviewees: Mary, Cate, Anil, and Mike.

OPPORTUNITIES & CHALLENGES

- In line with our target outcomes, the Algorithm Charter recognises the power of AI to help public sector organisations "deliver services that are more effective and efficient" [1]. Due to our broad ranging public role, any AI use cases have the potential to significantly impact wellbeing, whether intentionally or not. Applying the charter's recommendations around Trustworthy AI and Te Tiriti will enable us to mitigate any risks as they arise.
- As per the Tax Administration Act 1994, our officers are responsible for the integrity of the tax system [2]. AI fraud detection capabilities, with options for real-time analysis, provide us with the opportunity to proactively monitor taxpayer compliance and thus better maintain the integrity of the system.

RISKS

- Extra care is required when using third-party services that integrate AI. These might be subject to international regulations surrounding AI and privacy, particularly if their service uses international data sharing. As such, procurement processes should be strengthened to ensure provider use of AI is compliant with all applicable standards [3]. We should seek transparency and control over how providers are implementing AI, to ensure that any exposure of personal information or associated harm is prevented.
- Any deviation from applicable standards for AI use could result in severe reputational damage for our organisation due to its wide-ranging role as steward of New Zealand's tax system. Strong transparency and human oversight are especially critical for us, as inaccurate AI output could jeopardise public trust.

KEY INSIGHTS

- Regulatory compliance should be future-focussed - not only appreciating today's legislation but also proactively anticipating policies to follow. We should monitor for changes in regulatory policy that could impact our AI initiatives, and particularly for the introduction of any AI-related legislation. Thus far, pathways to AI regulation have been similar internationally, with countries moving from investigating AI capabilities to actively growing the industry [4]. As many governments begin looking at how to shape and regulate AI development, policies may diverge based on local factors. We should watch this regulatory landscape carefully, to pre-emptively ensure compliance.
- We should develop particularly robust procedures around the use of Generative AI. In addition to the privacy protections outlined in the Privacy Act 2020, specific Generative AI guidelines the Privacy Commissioner earlier this year focus on the importance of human oversight, including validation to ensure accuracy and confidentiality, as well as feedback mechanisms to enable improvement [5].

ROADMAP CONSIDERATIONS

AI Standards

AI Governance Standard Operating Procedures

1. *Algorithm-Charter-2020_Final-English-1.pdf (data.govt.nz)*
2. *Tax Administration Act 1994 Public Act 6 – New Zealand Legislation*
3. *Interim Generative AI guidance | NZ Digital government*
4. *AI regulation | Deloitte Insights*
5. *Privacy Commissioner outlines expectations around AI use*

Related Resources 1: Privacy Act 2020 No 31 (as at 01 November 2023)

Political & Public Sector Landscape

STRATEGIC CONTEXT

Ensuring our approach to AI will align with expectations placed on our organisation by the government and taxpayer base alike.

As a public sector organisation, we are accountable to both the current government and the people of Aotearoa New Zealand, hence our strategic foundation to build and maintain strong and trustful relationships (Whanaungatanga). Considering how this context ties in with our AI aspirations will be essential to ensuring their continued success.

AI can also support efficiency by automating routine tasks, streamlining processes, and enhancing data-driven decision-making.

STAKEHOLDER FEEDBACK

The strategic considerations for AI implementation within our organisation lie in carefully balancing opportunity with the obligation to guard data security and risk management. The key is to transition gradually while ensuring informed customer consent and a build-up of public trust, thus earning a 'social license'. However, despite an internal push towards being 'more brave', navigating between the increasing expectations of efficient data usage and the absolute adherence to security and risk profiles is a challenging task.
Interviewees: Mary, Cate, Anil, Phil, Lisa.

OPPORTUNITIES & CHALLENGES

- We have the opportunity to run targeted public engagement to gauge appetite for the incorporation of AI in tax processes. In doing so, we will aim to establish a social license, or ongoing public acceptance, for the initiatives we have planned. This process will differentiate initiatives that could be delivered from those that should be delivered based on public appetite and opinions.

RISKS

- Due to political shifts, and particularly the current period of government transition, the authorising environment in which we carry out our work may change. Therefore, flexibility of AI initiatives in adapting to changing government priorities will be a key factor in their ability to come to fruition in the current climate. We may need to be prepared to pause certain initiatives pending more certainty around the government's demands of the public sector.

KEY INSIGHTS

- The fact that an AI solution is legally and financially feasible doesn't necessary translate into moral and ethical acceptance from the target population, even if they stand to personally benefit. To provide a tax case study, the Australian government faced backlash after implementing Robodebt, an automated system that used income averaging to identify those in welfare debt and demand recovery of funds. The tool was highly inaccurate and lacked transparency, and many individuals experienced negative impacts to their finances and mental health because of the scheme. It incurred nearly $2B in lawsuit fees, with taxpayers footing the bill [1]. Although Robodebt didn't directly use AI methods, it was perceived to have done so and thus caused public trust to be undermined [2]. Similarly, a Michigan government agency lacked the social license to implement MiDAS, an AI tool used to detect unemployment fraud and automatically require repayment from offenders. A retrospective study identified that 93% of the charges were incorrect, leading to the agency facing class-action lawsuits and losing its customers' trust [3]. In both cases, stronger ethical design principles and public engagement could have ensured these organisations had the social license to operate the AI tool responsibly and derive associated efficiency gains. Ideally, the level of public acceptance will be re-assessed periodically throughout the lifecycle of the AI solution in question.
- As we move through the current period of uncertainty, we may find it helpful to prioritise agile decision-making, informed by diverse voices [4]. Implementing AI in a trustworthy manner that balances the opportunities with the risks will be a crucial part of weathering this change.

ROADMAP CONSIDERATIONS

Public Engagement

1. *Robo-debt (afr.com)*
2. *AI not to blame for Robodebt failures (govtechreview.com.au)*
3. *Government Serves Up False Fraud Charges (undark.org)*
4. *State of the State 2023 | Deloitte New Zealand*

Related Resources 1: Artificial intelligence impact on society | Deloitte Insights

Authorising Environment

STRATEGIC CONTEXT

The set of regulations, guidelines, and approval mechanisms within our organisation and the wider government that dictate the parameters for our AI strategy implementation and development.

Internally, this involves the application of existing frameworks, procedures, and principles to AI operations, ensuring that AI is used responsibly and ethically, complying with the organisation's data, information and knowledge governance framework. The authorising environment externally refers to our unique legislative position under the Tax Administration Act, which authorises us to utilise technology to make decisions on the commissioner's behalf, differentiating us from the wider regulatory landscape and political/public sector context.

STAKEHOLDER FEEDBACK

The authorising environment is slightly different than political and public sector context: making decisions around what our role is, how we how we look after our data, the role we play in terms of our regulatory responsibilities.

Interviewee: Cathy

OPPORTUNITIES & CHALLENGES

- The authorisation by the Tax Administration Act for us to use machines for decision-making provides a solid legislative footing to pioneer AI applications in the public sector. This unique position can advance us as a role model in regulating AI adoption, enhancing its capabilities while inspiring widespread trust.
- By showcasing responsible AI stewardship with transparent and accountable practices, we can fortify our leadership in the public sector. This can inform legislative fitness, stimulate understanding of AI implications, and establish robust standards for AI utilisation in the public sector.

RISKS

- The current fragmented and disjointed external authorising environment across the public sector could present risk. While government has the authority to set the environment, currently this has not been consolidated and clear directives. Different sectors have varying frameworks, casting doubts on the solidity of the authorising environment and causing a range of approaches. This fragmentation and lack of defined parameters increases the risk of disjointed AI methodologies.
- Our current legislative framework sanctions technology to make commissioner decisions. While beneficial, further assessment is required for its suitability towards AI progression. The absence of comprehensive AI understanding and control processes could hinder decision accuracy and accountability. We need to evaluate our existing privacy, ethics and data governance frameworks against evolving AI scenarios. Any misalignment risks erroneous results and potential key risks going forward.

KEY INSIGHTS

- A robust authorising environment is fundamental to responsibly implementing AI in our operations. It operates at multiple levels – we must ensure our internal authorising environment aligns strategically with legislative permissions and security considerations, while also attempting to influence a clearer, unified authorising environment within the wider public sector.
- Developing a comprehensive understanding of AI and its risks is now a strategic imperative. Currently, lower perceived risks associated with AI could be due to inadequate understanding. To successfully implement AI in our strategic operations, we need to strengthen our knowledge to comprehend its implications, risk factors, and recognise the potential for incorrect results.
- The legislative function of the Tax Administration Act, allowing us to use AI for decision-making, puts us in a unique advantageous position in defining and navigating the authorising environment compared to other organisations. However, this also implies an elevated role in setting robust guidelines and frameworks aligning to ethical and responsible AI utilisation.
- Stewardship is integral to our operation in the authorising environment. We must ensure future hallmarks of good stewardship, including significant legislation, is fit for purpose. Thus, ensuring preparedness for challenges associated with AI, and safeguarding ourselves against potential legal and ethical implications.

ROADMAP CONSIDERATIONS

AI Standards

AI Governance Standard Operating Procedures

Inland Revenue
Te Tari Taake

Thank you