International AI Experience in Government and Treasury

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Artificial intelligence and the path to digital government

What's happening now.....

- AI can help governments in three key opportunity areas:

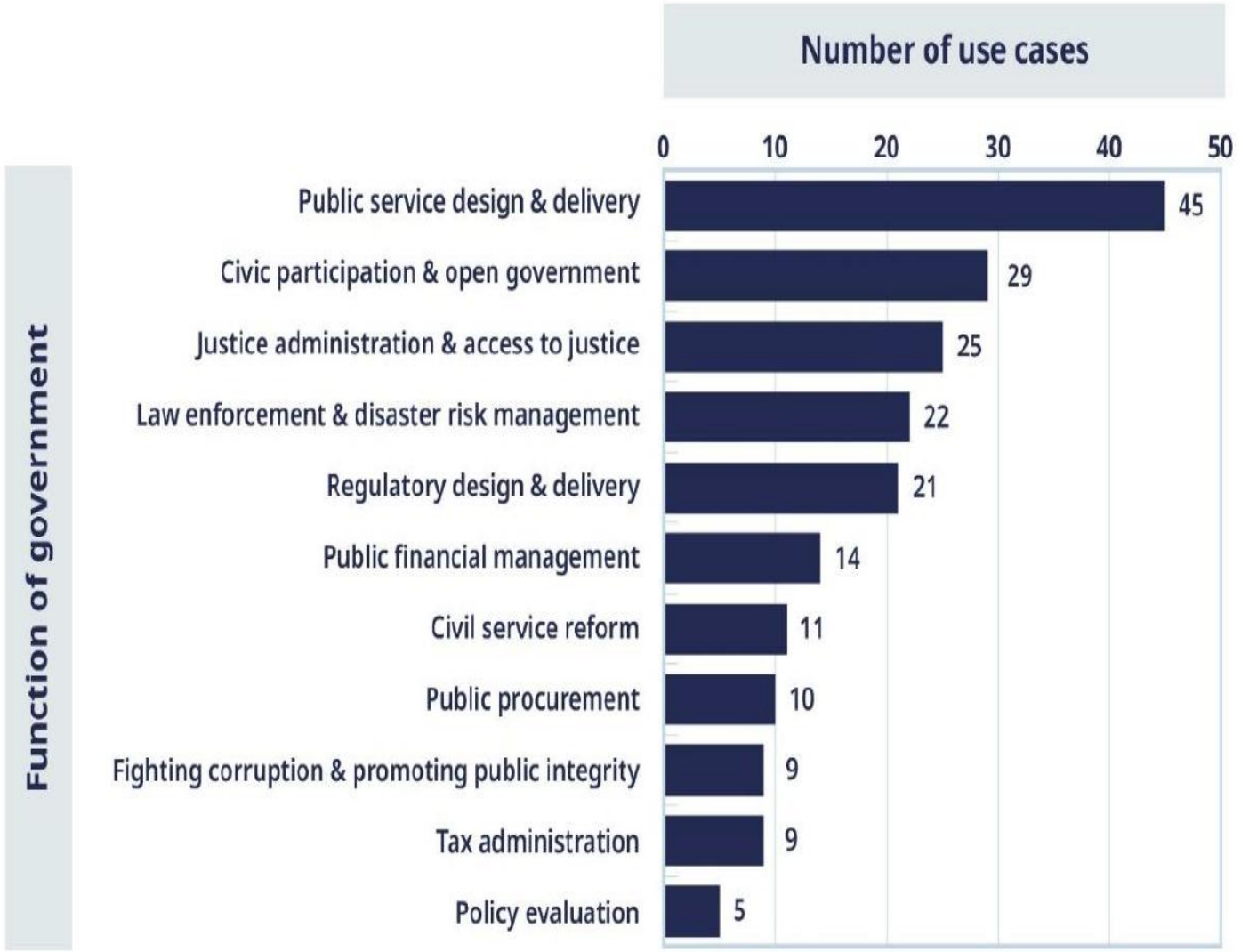
- Productivity,
- Responsiveness and
- Accountability

Understanding the use of AI in government

AI tasks	Government activity	Opportunity area
- Recognition - Event detection - Forecasting - Personalisation - Interaction support - Goal-driven optimisation - Content generation - Reasoning with knowledge structures	Internal operations	Productivity (efficiency and effectiveness)
	Policymaking	
	Service delivery	Responsiveness
	Internal and external oversight	Accountability

Source: OECD 2024

The most common AI use cases in government



Source: OECD 2024

Risks of AI in government

Ethical 

Privacy, biased algorithms, and invasive surveillance. Key concerns include threats to trust, equity, liberty, dignity, individual autonomy, and labor rights

Operational 

Technical and operational failures that could affect data privacy, the quality of AI results, cyber threats, hallucinations, and over-reliance on AI systems.

Exclusion 

Citizens without access to technology or digital literacy may be left behind and unable to benefit from AI advances in public service

Public resistance 

Due to the dissemination of false or misleading information about how AI is implemented in public administrations and its potential impact

Inaction 

Government delays in using AI to achieve positive benefits. There is also the risk of a widening gap between the capabilities of the public and private sectors

How to ensure that the use of AI is trustworthy

Enablers

to facilitate trustworthy adoption, including governance, data, digital infrastructure, skills, financial investments, agile procurement processes and capacities to partner with nongovernmental actors

Guardrails

to guide the use of AI, including rules and policies, guidance and frameworks, transparency and accountability mechanisms that span the AI system lifecycle, and oversight and advisory bodies to guide and evaluate efforts

Engagement

to shape user-centred and responsive approaches, including mechanisms to engage with key stakeholders, including the public, civil society and businesses

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Use of AI in Treasury Departments - Georgia Case Supported by the World Bank

Roadmap

Cash flow management forecast

Phases	1 Planning & Preparation (Prepare & Engage)	2 Exploration & Understanding (Discover)	3 Interpretation, Analysis and Synthesis (Define)	4 Ideation, Concept generation (Develop)	5 Evaluation, refinement, & lessons learnt (Deliver & Assess)

Key tasks	• Conduct Project Scoping
	• Define Roles and Responsibilities
	• Agree on Success criteria
	• Identify available data sources and system access
	• Finalize project timeline and deliverable agreement
		• Map current forecasting process
		• Stakeholder interviews and ecosystem analysis
		• Research AI forecasting models and public sector apps
		• Identify potential risks (regulatory or ethical)
			• Define Solution Goals, AI use case and validation criteria
			• Select AI/ML model (time series, anomaly detection)
			• Define key features (forecasting dashboard, alerting, variable input)
				• Ideation & Validation Sessions:
				  ○ Business
				  ○ Technical
				• Build forecasting model and visualization dashboard
				• User feedback
				• Wireframing?
					• Prototype Refinement
					• Demo Workshop/ Knowledge Sharing & Handover sessions (in person & virtual)

Deliverables	• Project team formulated • Roles assigned • Prototype Approach & Timeline	• Research Plan & Action • Data from Georgia Treasury	• Design brief • Key tasks assigned	• Concept design • Dashboard/Wireframing • Prototyping	• Evaluation • Prototype Documentation • (Findings, lessons learnt & recommendations and knowledge transfer)

Georgia Treasury

Cash flow management forecast

- Short and medium-term forecasting (initially) and long-term forecasting (later)

- Targets/Data:
  Revenues, Expenditure, State budget balance (daily/weekly/monthly totals)

- Primary metrics:
  1. Accuracy (RMSE)
  2. Explained variance (R^2)
  3. Percentage error (MAPE/sMAPE).

Georgia Treasury

Cash flow management forecast

A wide range of methods are being tested:

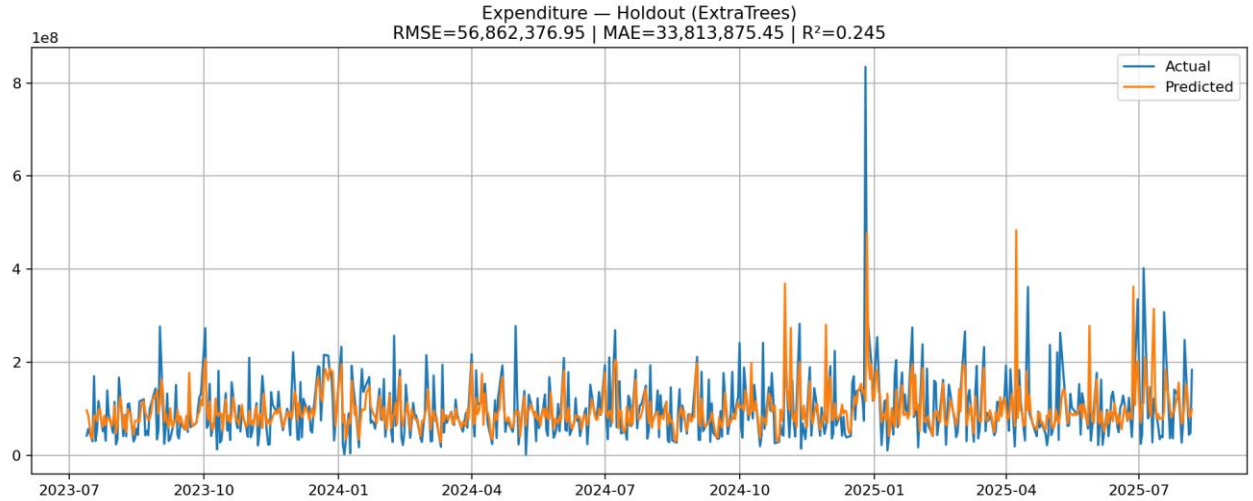
- Statistical baselines (ARIMA, SARIMAX, ETS)
- ML algorithms (univariate and multivariate)
- Deep Learning (TCN, LSTM, etc.)

Georgia Treasury

Cash flow management forecast

Initial results:

- Daily noise persists, so forecasts are better for monitoring if weekly aggregation is done.

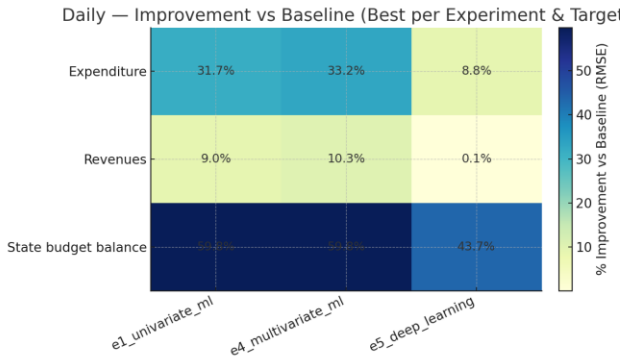


Georgia Treasury

Cash flow management forecast

Ongoing process:

- Integrate forecasts into a PowerBI dashboard for monitoring and decision-making.
- Add event calendars for taxes, payroll, and debt service so models can anticipate spikes.
- Monitor prediction intervals and trigger alerts when forecasts deviate significantly.
- Continue testing deep learning with more comprehensive data.



03

Experiences from other countries

Indonesia

Use Case on Cash Forecasting: In-House Development

- OBJECTIVE: Develop an IT-based treasury system for state budget (APBN) simulation, facilitating rapid financial data processing and strategic decision support to maximize government cash management efficiency.

- HOW: A simulation system that can produce projections of the state budget (APBN) realization based on predetermined scenarios. This includes projections of income, expenditure, and other main items.

Indonesia

Use Case on Cash Forecasting: In-House Development

- MECHANISM: VAT Revenue Forecast Using Anaplan ML
- ULTIMATE GOAL: Timely and accurate decisions for financial stability and efficient public services.

Türkiye

Use Case on Cash Forecasting: Hybrid approach

- OBJECTIVE: Implement a cash flow forecasting tool for the Treasury to support and improve the efficiency of government cash management.
- HOW: Using traditional models (such as linear regressions) and machine learning algorithms to compare and maximize results.

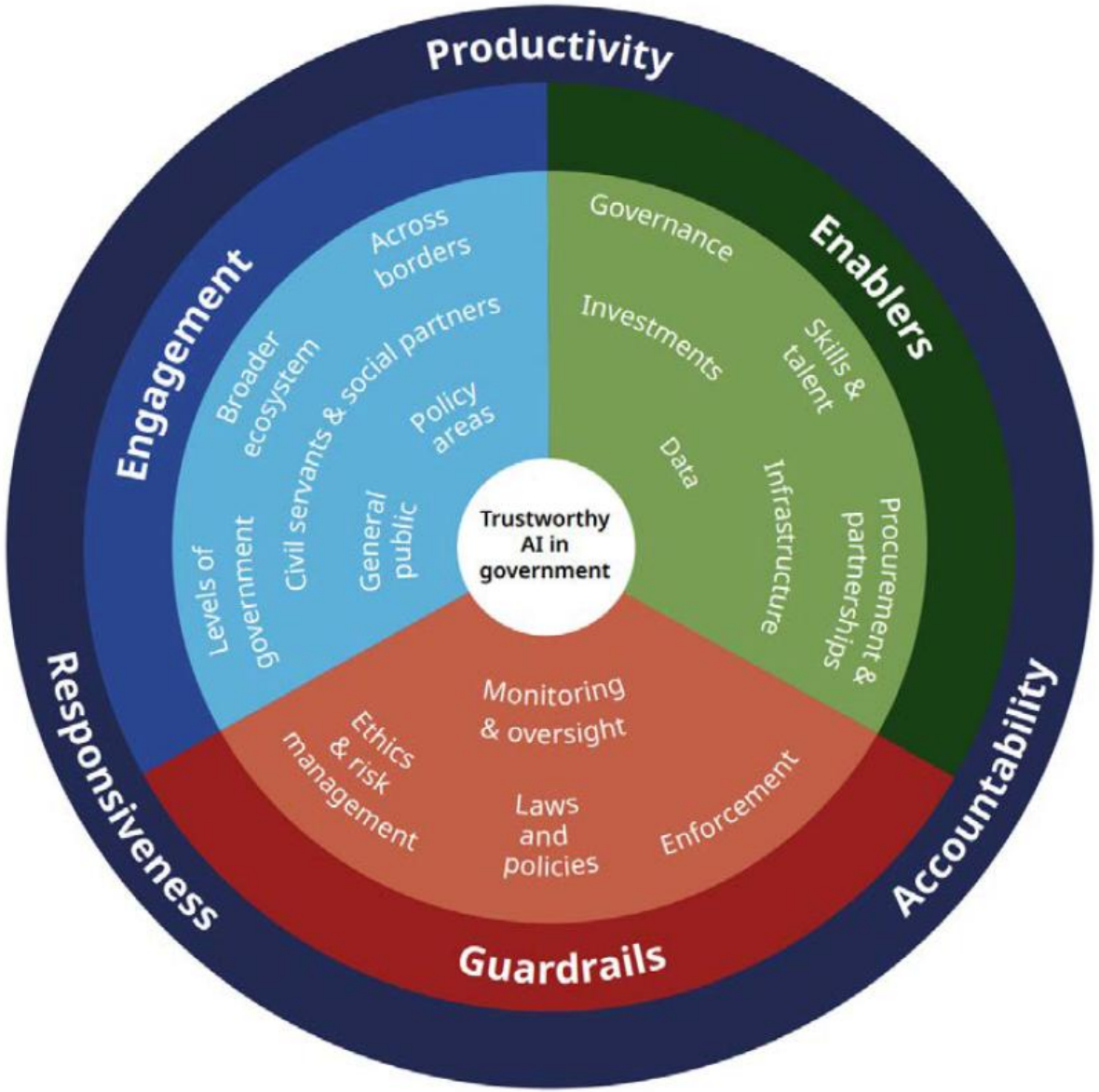
…. and many more

- Finland
- Brazil
- USA
- UK
- Australia
- India
- ……
- ……
- ……

04

A framework for trustworthy AI in government

A framework for trustworthy AI in government



Do not forget……

AI offers substantial benefits for Governments but must be introduced with a structured & incremental strategy

Thank You!!

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