1 Introduction

Artificial Intelligence (AI) offers tremendous potential for innovation in all sectors and industries. In the private sector, AI is an intrinsic part of myriad technologies and services in the form of algorithms that mapping apps use to avoid traffic, that Netflix and Spotify use to provide recommendations, and that e-mail providers use to automatically filter for spam. Use of AI in the public sector is just as relevant, and perhaps holds even more potential for improving lives and transforming societies, based on the variety of roles that governments play (financier, buyer, regulator, convener, standards-setter, data steward, user and service provider) (Berryhill et al., 2019[1]).

One study on the public service of the United States (US) suggested that AI could free up nearly one-third of public servants' time, potentially allowing them to shift from mundane tasks to high-value work (Eggers, Schatsky and Viechnicki, 2017[2]). Governments could also use AI to improve policy design, make better decisions, enhance communication and engagement with the public, and upgrade the speed and quality of public services. The inherent possibilities of AI in the public sector are not lost on government officials. A recent study by Microsoft found that two-thirds of public sector organisations see AI as a digital priority (Bertrand, 2020[3]).

While the potential benefits of AI are significant, attaining them is not an easy task. Government use of AI technology lags behind that of the private sector. Moreover, the field is complex and has a steep learning curve. The purpose of AI in the context of government is unique and presents several challenges when compared to the private sector. Indeed, only 4% of public sector organisations in Western Europe have made effective use of AI to achieve any significant degree of organisational transformation (Bertrand, 2020[3]), reflecting the level of difficulty governments face in adopting AI.

Although the public sector trails its private counterpart, governments are seeking ways to catch up. Recent OECD work has focused specifically on relevant use cases, opportunities, challenges and other

considerations that governments need to understand when seeking to make strategic use of AI for public sector innovation and transformation:

- In September 2019, the Working Party of Senior Digital Government Officials (E-Leaders),[1] supported by the Digital Government and Data Unit,[2] published the report *State of the Art in the Use of Emerging Technologies in the Public Sector*.[3] The report highlighted the main opportunities and challenges surrounding the use of AI and other emerging technologies in government, and offered insights into strategies as well as practical examples of governments integrating such technologies.
- In November 2019, the OECD Observatory of Public Sector Innovation (OPSI)[4] published the report *Hello, World: Artificial Intelligence and its Use in the Public Sector*,[5] which sought to unpack the technical aspects of AI for public servants. The report also found that more than 50 countries had developed national AI strategies, with most incorporating a focus on AI in the public sector. In addition, it uncovered key use cases in AI in the public sector and provided guidance on important considerations for the public sector. Since then, the number of countries with national AI strategies has grown to over 60 by mid-2020 (OECD, 2020[4]).[6]
- In September 2021, the OECD Infrastructure and Public Procurement division published a report on Building Resilience, which examined how AI and big data analytics are transforming the availability and use of information, and creating opportunities to plan infrastructure investments better and extend asset life. The report provides a framework and country examples showing how to integrate machine and digital technologies across the infrastructure life cycle, from development to delivery and operations, with a view to improving infrastructure resilience and sustainability (OECD, 2021[5]).

These government-oriented efforts feed into the OECD's flagship initiative to closely monitor global developments incorporating AI: the OECD.AI Policy Observatory.[7] The OECD.AI Policy Observatory builds on the momentum of the OECD's 2019 Recommendation on AI (the "OECD AI Principles").[8] These Principles constitute the world's first intergovernmental standards on AI. They complement existing OECD standards in areas such as privacy, digital security risk management and responsible business conduct. To date, 46 countries around the world have made a commitment to adopt these Principles. In June 2019, the G20 adopted human-centred AI Principles which draw on the OECD AI Principles.

The OECD AI Principles are comprised of five value-based principles to ensure that AI systems are trustworthy and human-centric. They are accompanied by five policy recommendations that policy makers should undertake to foster thriving AI ecosystems that respect human rights and democratic values and benefit societies (Table 1.1).

Table 1.1. The OECD AI Principles

	Principle		Excerpt
Values-based Principles	1.1	Inclusive growth, sustainable development and well-being	*Trustworthy AI has the potential to contribute to overall growth and prosperity for all – individuals, society and the planet – and to advance global development objectives.*
	1.2	Human-centred values and fairness	*AI systems should be designed in a way that respects the rule of law, human rights, democratic values and diversity, and should include appropriate safeguards to ensure a fair and just society.*
	1.3	Transparency and explainability	*AI systems need transparency and responsible disclosure to ensure that people understand when they are engaging with them and can challenge outcomes.*
	1.4	Robustness, security and safety	*AI systems must function in a robust, secure and safe way throughout their lifetimes, and potential risks should be continually assessed and managed.*
	1.5	Accountability	*Organisations and individuals developing, deploying or operating AI systems should be held accountable for their proper functioning in line with the OECD's values-based principles for AI.*

Policy Recommendations	2.1	Investing in R&D	*Governments should facilitate public and private investment in research and development to spur innovation in trustworthy AI.*
	2.2	Fostering a digital ecosystem for AI	*Governments should foster accessible AI ecosystems with digital infrastructure and technologies, and mechanisms to share data and knowledge.*
	2.3	Shaping an enabling policy environment	*Governments should create a policy environment that will open the way to deployment of trustworthy AI systems.*
	2.4	Building human capacity and preparing for labour market transformation	*Governments should equip people with the skills for AI and support workers to ensure a fair transition.*
	2.5	International co-operation	*Governments should co-operate across borders and sectors to share information, develop standards and work towards responsible stewardship of AI.*

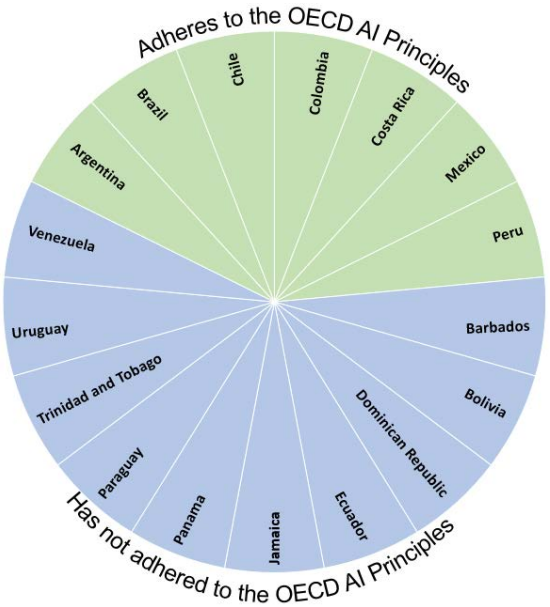
Source: (OECD, 2019[6]).

The OECD AI Principles incorporate a focus on the development of metrics to measure AI research, development and deployment, and the accumulation of an evidence base to assess progress in implementation. Accordingly, in February 2020 the OECD launched the OECD Artificial Intelligence Policy Observatory as a hub to facilitate dialogue and share best practices on AI policies. The Observatory fosters AI policy dialogue and provides access to real-time trends and data on AI development, research, jobs and skills, search trends and investments in AI. The Observatory also enables access to a database of national AI policies from over 63 countries and the European Union,[9] provides information on the ways AI impacts different policy domains from agriculture to healthcare or finance, and maintains a blog on cutting-edge AI research and policies.[10]

These efforts are closely linked to the work of the OECD AI Network of Experts, a multi-stakeholder expert group that develops practical guidance to help implement the OECD AI Principles.[11] In June 2021, the OECD published its first report on the *State of Implementation of the OECD AI Principles: Insights from National AI Policies* (OECD, 2021[7]) The report identifies some of the challenges and associated good practices for governments implementing the AI principles, specifically in relation to research and development, enabling effective policy environments and fostering international co-operation for trustworthy AI.

Latin America and the Caribbean (LAC) governments like their counterparts in the OECD and in other countries and regions across the world have taken a strong interest in AI and its potential benefits and ramifications. In fact, a growing number of LAC countries are developing national AI strategies, and seven have formally adopted the OECD AI Principles (accounting for about 85% of the population of LAC countries within the scope of this review) (Figure 1.1), as discussed later in this report. Additionally, as shown in the cases explored in this report, AI solutions are becoming more accessible to governments, highlighting the need to identify current challenges, and to develop best practices and standards to increase the positive impact of their application.

Figure 1.1. LAC country adherence to the OECD AI Principles



Source: https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0449.

AI is already having a profound impact in the LAC region. A recent study by the MIT Technology Review found that the region has a robust ecosystem of start-ups, and that almost 80% of large businesses in the LAC region have launched AI initiatives and are actively making use of AI (MIT Technology Review, 2020[8]). However, it also found that AI efforts in the region are hindered by political instability, a lack of policy cohesion and limited international collaboration, such as low levels of participation in international efforts to develop governance mechanisms, ethical frameworks and similar approaches.

Such factors also limit the progress that LAC governments can make in leveraging AI for public sector innovation and transformation. The OECD has also identified a number of other factors that can contribute to or hinder government efforts to pursue informed, effective and trustworthy AI strategies, projects and initiatives. Governments must take an active role in shaping these factors and leveraging the potential of AI while managing associated challenges and risks. This review, *The Strategic and Responsible Use of Artificial Intelligence in the Public Sector of Latin America and the Caribbean*, developed by the OECD in collaboration with CAF, Development Bank of Latin America,[12] seeks to help LAC governments achieve this by uncovering national and regional AI approaches and trends, and identifying the extent to which LAC countries are positioned to reap the benefits and mitigate the risks of AI in the public sector.[13] It draws on the lessons and knowledge gained from the OECD's broader work in AI and, for the first time, delves into the landscape, use cases, challenges and considerations for AI in the public sector in a specific region. It is the hope of the OECD and CAF that, armed with new knowledge and insights, LAC governments can take action to build upon or change their existing portfolio of activities to strengthen their strategic use of AI at the national and regional level.

To inform this effort, the OECD and CAF have worked together since the summer of 2020 to:

- Hold in-depth fact-finding interviews with senior leaders and practitioners from LAC governments.
- Administer a survey of the agency responsible for digital government efforts in each country which generally has the leading role in determining how AI and other aspects of digitalisation can be used to shift to a digital government approach throughout the policy and service life cycle in the public sector.

- Conduct extensive research on a variety of topics related to AI in the public sector for each country.

In addition, each country was given two multi-week review windows to review the initial and near-final findings and provide comments and supplementary information, which have been incorporated into the final version. Through all of this work, the OECD and CAF have found that a number of CAF countries have developed exploratory but rapidly advancing portfolios of AI strategies, policies and projects, as well as underlying enablers to support them (e.g. guiding principles, skills, methods and infrastructure, among others). The OECD and CAF have also found that the level of maturity apparent in such efforts varies significantly throughout the region, with some countries developing world-class strategies and initiatives, while others have yet to demonstrate a focus or ambition for AI in the public sector. The chapters of this report seek to paint a picture of the current status of AI in the public sector for the LAC region:

- Chapter 2 provides an overview of the status of national AI strategies in LAC countries, with an emphasis on the inclusion of public sector innovation and transformation. It highlights areas where governments have prioritised efforts and incorporated action plans into strategies to help drive successful implementation.
- Chapter 3 examines cases of AI use in LAC countries today. It provides examples from the public sector of implemented AI projects in focus areas such as COVID-19 response, improving government efficiency, decision making, integrity, public safety and security, and building relationships with and services for citizens and businesses, among others.
- Chapter 4 discusses efforts by LAC countries to ensure a trustworthy and ethical approach to AI in the public sector. It assesses ethical principles, frameworks and other mechanisms and their alignment with the OECD AI Principles. It also discusses LAC government efforts to ensure fairness and mitigate bias and to promote transparency and accountability. As a cross-cutting factor, it explores how countries are being inclusive in their AI initiatives through building multi-disciplinary and diverse teams and maintaining a focus on end users and their needs.
- Chapter 5 addresses key governance capacities identified by the OECD as critical for government success in pursuing AI in the public sector. It focuses in particular on top-level leadership for AI, cross-government co-ordination, strategic data governance mechanisms and spaces for AI experimentation. The chapter also assesses whether LAC governments have put in place adequate mechanisms to understand public problems and evaluate whether AI may be the best solution to overcome these challenges. Finally, it discusses LAC anticipatory innovation governance capacities to grasp potential futures and take actions to prepare for them in the present.
- Chapter 6 explores whether key enablers for AI in the public sector are present in LAC countries. It reviews government efforts to provide funding, enhance internal human capital capacities, leverage external capabilities through partnerships and procurement, and put in place essential digital infrastructure.
- Chapter 7 provides an overall conclusion and recommendations for LAC governments to consider as they continue to explore and adopt AI in the public sector.

Throughout this report, the OECD makes comparisons between the status and characteristics of LAC government efforts for AI in the public sector and those of other governments around the world. The report also compares and contrasts the actions and relative capacities of countries within the LAC region. Visualisations elaborated on the basis of survey results, interviews, research and government validation of findings indicate regional leaders in certain areas, as well as countries for which capacities in various areas are not as apparent. This is not intended to serve as a ranking. Rather, it is intended to help identify particularly strengths among countries to enable others to learn from their practices and lessons. It is also intended to help identify countries who may benefit from increased focus on certain areas or support from

others in the region. Additionally, it may support the potential for a regional approach to AI. For instance, if LAC governments were to collaborate on an AI strategy or initiative, those with relative strengths could help guide certain components (e.g. Argentina on experimentation, Brazil on interoperability, Chile on leveraging external expertise, Colombia on ensuring an ethical and trustworthy approach, Panama on guidance for infrastructure, Uruguay on underlying data strategy, etc.).

The conclusions of this review of AI in the public sector represent the first findings from a larger comprehensive digital government review of LAC governments by the OECD and CAF, covering topics such as governance, skills and capabilities, building a data-driven public sector, open government data, digital innovation and capacities for leveraging collaborative GovTech approaches. This review entitled *Going Digital: The State of Digital Government in Latin America* is expected to be published in 2022.

The review of AI in the public sector in the LAC region and the broader digital government publication is particularly timely. In the COVID-19 context, immediate responses to the pandemic accelerated the digital transformation and shift to coronavirus-related items such as testing, contact tracing, virtual work and education, and the relaunch of the economy. However, over time, it became clear that the COVID-19 crisis also served as a catalyst for public sector innovation in these areas and many more (OECD, 2020[9]). Of particular relevance for this report are efforts devised by governments to leverage AI for pandemic response, through the creation of early warning tools and the acceleration of medical research to produce treatments, among others (OECD, 2020[10]). The crisis has re-emphasised the role of the state as an enabler of the economy and society, and has highlighted the need for governments to respond quickly and effectively, often using new tools and technologies. By strengthening local, national and regional digital and AI capacities now, governments can better position themselves to respond to ongoing and future shocks and challenges.

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Notes

[1] https://oe.cd/eleaders.

[2] https://oe.cd/dig-gov.

[3] https://oe.cd/il/gov-emergingtech.

[4] OPSI serves as a global forum for public sector innovation, helping governments to understand, test and embed new ways of doing things through the application of fresh insights, knowledge, tools and connections. See https://oecd-opsi.org for more information.

[5] https://oe.cd/helloworld.

[6] The OECD.AI Policy Observatory maintains a growing database of national AI policies, available at https://oecd.ai/dashboards.

[7] https://oecd.ai.

[8] https://oecd.ai/ai-principles. An official OECD "Recommendation" is a legal instrument which, although not legally binding, is considered by member countries to carry great moral force. OECD Recommendations are adopted when member countries are prepared to make the political commitment necessary to implement the principles set out in the text. This type of instrument is often referred to as "soft law".

[9] www.oecd.ai/dashboards.

[10] www.oecd.ai/wonk.

[11] www.oecd.ai/network-of-experts.

[12] www.caf.com.

[13] This report does not profess to be an introduction to Artificial Intelligence or its use in government. Users interested in learning more about the technology and its history as well as different technical applications can find overviews and guidance in the report *Hello, World: Artificial Intelligence and its Use in the Public Sector* (https://oe.cd/helloworld).

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