



## Joint Councils Executive Report on Trends this Month

**Delivering local solutions, Artificial Intelligence, and facial recognition technology were key trends this month.**

### Key insights - Delivering local solutions



**AUSTRALIA** - Delivering local solutions cannot be treated as an overhead or an afterthought. [Research](#) prepared for the Independent Review of the Australian Public Service (APS) finds there are areas for improvement in the delivery of local solutions to communities. The authors investigated the strengths and weaknesses of the APS current approach to delivering local solutions to communities.

**UK** - Globally, governments at all levels are making greater uses of new data systems as they try to improve service delivery and decision-making. Yet, there is little public information available about where and how governments are making use of data systems. [The Data Scores as Governance](#) project maps and analyzes local government uses of data analytics, with a particular focus on investigating uses of predictive analytics. Their multi-method investigation led to: 1) a comprehensive [list and map](#) of data analytics systems across local

authorities, 2) a [research report](#) that details concrete examples of the different types of analytics systems being used as well as a survey of civil society concerns and 3) an interactive [online tool](#) to facilitate greater research and debate.

### Key insights - Artificial Intelligence



**UK** - An [article published in Nature](#) argues that core tasks of governments, such as enforcing regulations and ensuring fair elections, require an understanding of data and algorithms. "Policymakers should harness data to deliver public services that are responsive, efficient and fair". The pay-offs for policymakers using data science and AI go well beyond cutting costs and making government more citizen-focused. Data-intensive technologies could offer a way to overcome biases that have existed for centuries in governance systems.

**CANADA** - The Treasury Board Secretariat of Canada recently unveiled the Directive on Automated Decision Making, which came into effect on April 1. The government's new artificial intelligence directive is welcome, says tech CEO Wallace Trenholm, but there needs to be a bigger focus on how data is collected and used. [Read more here](#) (The Hill Times subscription required).

**SINGAPORE** - Singapore needs to tap artificial intelligence to sustain economic growth. On April 13, Smart Nation and Digital Government Office [deputy secretary Tan Kok Yam](#) said that with the country's workforce shrinking as the population ages, AI can help to raise productivity.

In Singapore, the government has been using AI technologies to predict when infrastructure, such as roads and lifts, need maintenance, and to provide personalized citizen services, among other tasks.

**ESTONIA** - Estonia's chief information officer began piloting several AI-based projects at agencies in 2017, before hiring Ott Velsberg last year. Velsberg says that 13 places in Estonia have deployed AI or machine learning and replaced government workers with an algorithm. In the most ambitious project to date, the Estonian Ministry of Justice has asked Velsberg and his team to design a "robot judge" that could adjudicate small claims disputes of less than about US\$8,000. The project is in its early phases and will likely start later this year with a pilot focusing on contract disputes. [Read more here](#).

*Other noteworthy articles on AI:* [Artificial brains installed on NSW trains](#), CIO.

## Key insights – Facial recognition technology



**US** - Over the past year, a number of organizations have campaigned for policymakers to ban government use of facial recognition technology and for large companies to not sell the technology to government. Their efforts have begun to be fruitful. However, [according to a GovTech article](#), these bans are

based on inaccurate or misguided concerns, and following through on them would weaken the effectiveness and efficiency of law enforcement, make schools less safe, and hold back technological progress at other government agencies.

**CHINA** – Paul Mozur detailed how Chinese authorities are using a vast, secret system of advanced facial recognition technology to track a largely Muslim minority group. It is the first known example of a government intentionally using artificial intelligence for racial profiling, [experts said](#).

### Other noteworthy articles this month:

[NT govt to rationalise IT estate, build new budget system](#), IT News.

[Back to basics: Cybersecurity starts at the service desk](#), GCN.

[How Agencies Can Improve Physical Access Security](#), Fed Tech.

[How Israel became a cybersecurity power — and what Canada can learn from it](#), Financial Post

[How public-sector leaders can foster innovation now](#), GCN.

[Government of Western Australia pumps AU\\$34.7mn into digital transformation](#), Business Chief.

### Research repository

Access the ICCS Research Repository [here](#).

## This month's feature: Data analytics in the public sector



With a data analytics playbook on the horizon to support and advance efforts of the [Data-Driven Intelligence \(DDI\) Working Group](#), this month's feature is about data analytics.

### Why use data analytics



The proliferation of data and advances in analytical tools and methods have created opportunities across sectors to enhance management decision-making and better serve clients. These opportunities extend to the public sector, where organizations are increasingly faced with pressure to effectively deliver on project and service outcomes while enhancing efficiency and improving client experience. While the public sector has historically been custodians of mass amounts of data, the full potential of this data to inform and advance decision-making and operations has not been realized. To meet the challenges of today and the future, all public sector organizations should be thinking about and advancing the application of analytics within their organization. While analytics is on the radar of many leadership teams, the scale of the opportunity and impact and a clear path to move organizations forward still needs to be defined.

The Institute for Citizen-Centred Service (ICCS), on behalf of the Public Sector Service Delivery Council (PSSDC), is developing a Playbook which will support and advance efforts of the Data-Driven Intelligence (DDI) Working Group to improve the use of analytics across public service organizations.

The Playbook will be a tool to start public sector organizations on their analytics journey. It will articulate the rationale for why public sector organizations need to pay attention to their use of analytics as well as the success factors that will be key differentiators between organizations that are using analytics to meet their goals and those that are not and therefore are falling behind. It also recognizes where there is progress being made and includes case studies from work being conducted across the country, by all levels of government, to unleash the power of analytics and improve organizational decision making and service delivery to citizens. These case studies are meant to seed inspiration for the use of analytics in other jurisdictions, promote collaboration and information sharing and provide valuable lessons learned as others move forward with their own analytics projects.

The playbook includes:

- a maturity model for analytics and rationale for the way in which this can support a future evolution towards artificial intelligence;
- detail on how to create an enabling environment for data analytics;
- key success factors of data-informed organizations;

- how organizations can get started moving up the maturity curve; and,
- case studies to draw upon.

The report is expected to be published in May. In the meantime, here is the way that Pew Charitable Trusts defines the ways that data analytics can be used, a few cases studies, and some resources to get started.

## 4 ways that data analytics can be used in the public sector



In its report, [How States use data to inform decisions A national review of the use of administrative data to improve state decision-making](#), Pew Charitable Trusts identified four ways that data analytics can be used in the public sector and provided cases of how this has worked in the United States. Data can be used to:

*Craft policy responses to complex problems:* In Massachusetts, policymakers sought strategies to reduce deaths from drug overdoses. The Department of Public Health led the effort to integrate ten data sets from five agencies. Findings from this analysis showed that illegally obtained drugs caused more deaths than prescribed opioid medications and that individuals released from prison were 56 times more likely to die from an overdose than were members of the public. As a result of these and additional findings, Massachusetts passed Chapter 52 in 2016 to address the opioid crisis' contributing factors through treatment, education, and prevention.

*Improve service delivery:* Missouri health officials believed that analyzing Medicaid claims data could improve patient outcomes. To that end, they added claims information into an algorithm that factored in whether an individual frequently used emergency services and had a chronic health condition. Due to the fact these often high-risk Medicaid patients could benefit from more intensive, patient-centered health care, officials enrolled them into “health homes”—a type of patient-centered care delivery in which high-cost patients are assigned caseworkers who help coordinate the providers caring for them. The result was improved clinical outcomes.

*Manage existing resources:* In Delaware, state leaders explored ways to use the state's vehicle fleet more efficiently. After installing GPS devices, they received real-time data, such as unauthorized vehicle use and excessive idle time. Between 2008-12, Delaware's analysis of the GPS data allowed managers to better allocate vehicles across the state, saving \$874,000 by reducing the miles driven and fuel used.

*Examine policy and program effectiveness:* The District of Columbia performed a randomized controlled trial using administrative data to assess how to most effectively boost participation in its Summer Youth Employment Program. The trial revealed the effect of various strategies on program attendance and provided administrators with the necessary information to boost future participation.

## Case studies



While the above examples are US-centric, the Data Analytics Playbook will feature Canadian case studies and examples. In the meantime, below are a few case studies across other leading jurisdictions where data is being used to make an impact:

**Australia:** LinkedIn is working with the Australian government to mine data from the LinkedIn economic graph to identify trends such as the increasing demand for technology workers who also possess soft skills. These insights will help policymakers to create programs giving Australian workers the right skills and competencies.

**UK:** In Newcastle, embedded data analysts produce data dashboards, known as ChildStat, for social workers and team managers. The dashboards provide an overview of case loads, the actions needed to respond to statutory timescales and requirements, and outcomes data. The dashboards can also be used to report on performance of social work teams. ChildStat gives social workers a feedback loop so that it is easier to see which strategies for working with families are most effective. The dashboards draw information from a data warehouse, which pulls in data from three sources – social care, education and the Common Assessment Framework.

**Singapore:** As part of its Smart Nation initiative, Singapore is building a nationwide infrastructure to enable better sensing of how the city works, and to optimize the running of smart city services. Singapore is enacting systems to collect data, perform analytics to interpret real-time data as far as possible, and ultimately, to visualize insights to help public agencies make better planning decisions, and enhance their operations. For example, the GovTech's Data Science team, in collaboration with various government economic agencies, is working on an initiative called the Pulse of the Economy that looks at high-frequency big data, including electricity consumption, public transport, online job listings and other urban data sources, to develop new indicators for better economic and urban planning.

### Further reading:

[Analytics in City Government: How the Civic Analytics Network Cities Are Using Data to Support Public Safety, Housing, Public Health, and Transportation](#), ASH Center for Democratic Governance and Innovation

[Insights from the Cutting Edge of Data-driven Local Government](#), NESTA and Local Government Association (UK)

[Big Data in the Public Sector](#), Selected Applications and Lessons Learned, Inter-American Development Bank, Inter-American Development Bank

[The Age of Analytics: Competing in a data-driven world](#), McKinsey Global Institute

[Big Data in Action for Government](#), World Bank



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