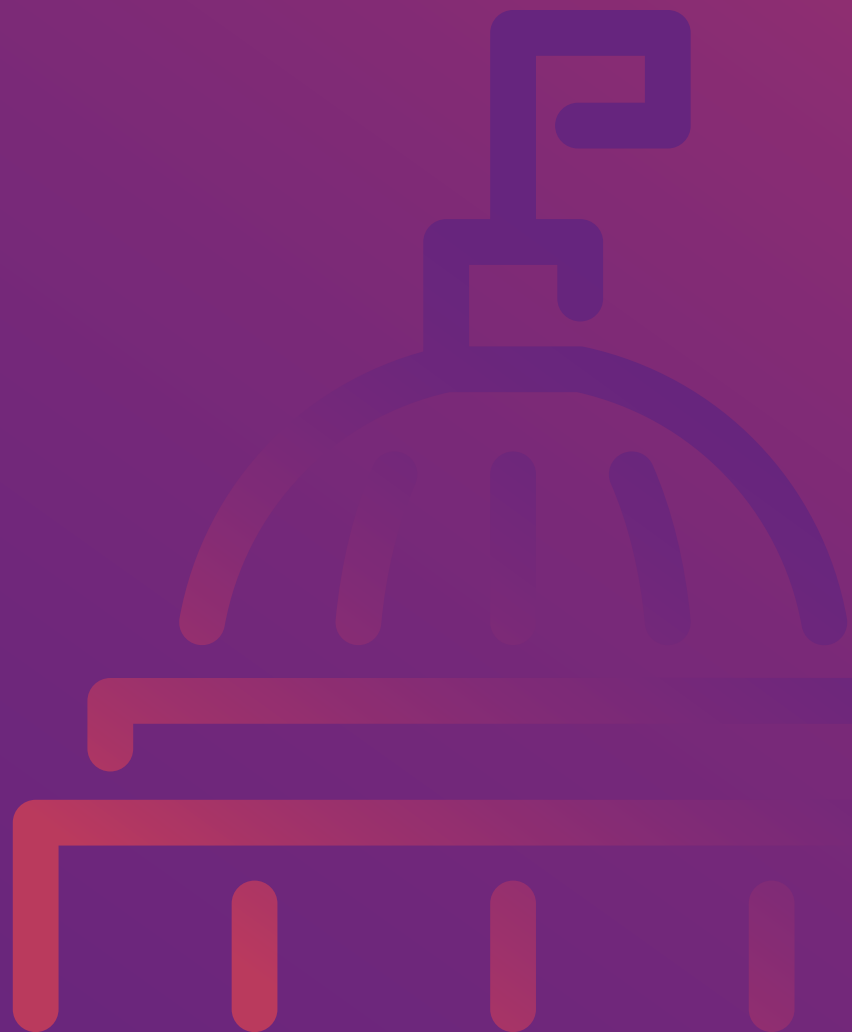




Technology

Improving local government performance:
digitalisation and open data

Part 1



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Introduction

Engineering the future

New data technologies are no longer the preserve of business. Far from it – the digital agenda is an immediate and urgent priority for government organisations as one of the primary and most accessible means of improving citizen service and driving new efficiencies.

But not enough entities are rising to the challenge. So here we highlight some of the leading performers from across the world, and we focus on the key role of the finance professional.

The 2014 CGMA® report, **'Managing local government performance – Transparency, technology, talent and transformation'**, outlined a new role for finance professionals in helping local authority leaders address key performance management challenges.

The survey that was undertaken in conjunction with that report found that an astounding "89% of respondents identified technology adoption as the biggest area where improvement was needed to benefit citizens, but that only 29% currently used technology to the direct benefit of its citizens."¹ The report also concluded that providing easily accessible, relevant, and timely information to support public service is critical for successful, sustainable government entities.

Volume 1: Managing local government performance

Volume 2: Transparency

Volume 3: Technology

Part 1: digitalisation and open data

Part 2: strategy, communication and cybersecurity

Volume 4: Talent

Volume 5: Transformation

The research described in the original report explored current and future local government practices in 48 countries. The findings showed that for governments to meet the demands of politicians, citizens, businesses, and other constituents within increasingly diverse urban communities, they must simultaneously address four key areas and meet the ongoing challenge of 'doing more with less'. They must actively pursue the transformation of public services and enable the necessary technology to support this objective while responding to increasing public demand for government transparency.

To meet these challenges, they must also contend with the difficulty of recruiting, developing, and retaining talent in an increasingly competitive market.

This second report in the series focuses on technology drivers and how those government entities that strategically incorporate technological advances to improve communication, strategy, and performance can reap significant benefit for their employees, citizens, and other stakeholders. Here we consider in more detail recent and future developments in digitalisation² and open data, and provide practical guidance for finance professionals.

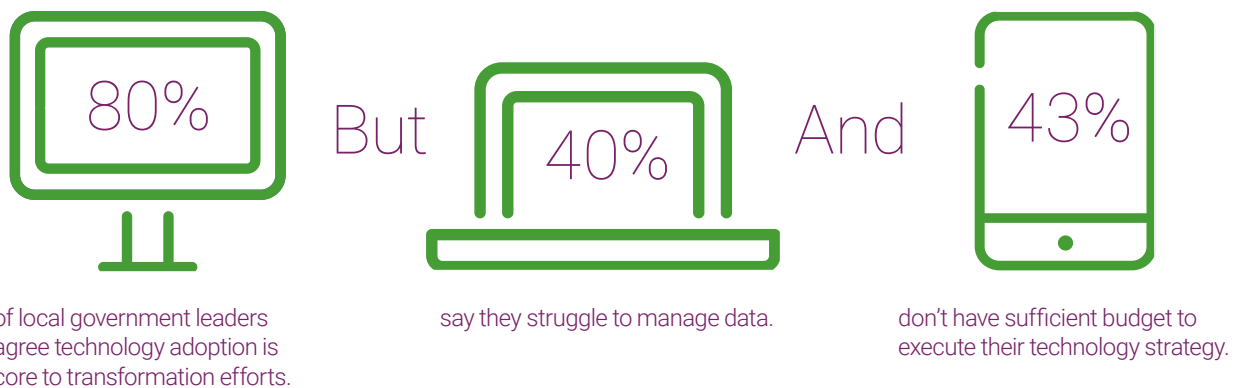
Technology and digitalisation

Governments throughout the world are drawing on technological and digital tools to enhance services to their citizens. This work is driving improvements, innovations, and ever higher standards. Whether it is a rural mayor embarking upon his or her first social media blog, free city-wide Wi-Fi, or the world's largest metropolitan government providing broadband to its citizens, new technologies can be easily leveraged regardless of the government's available revenue and resource streams.

Cloud technologies are enabling government organisations to use and improve existing services, both internally and externally. For instance, time-consuming procurement processes can now be automated quickly, efficiently, and with successful outcomes, while simultaneously addressing the public interest. The immediate benefits of implementing digital services include reductions in phone calls and paperwork, a real-time audit trail, monetary savings, and other economies of scale.

Digitalisation is defined as using, to the entities' advantage, digital technologies to do things differently, (i.e. better). This will be discussed in more detail in the Digital Transformation section.

Figure 1: Seeking better performance³



The role of the finance function

It is no longer an option for finance leaders in government organisations to choose whether or not they utilise technology to propel their organisation towards success. It has become a necessity. Government entities must become increasingly 'technical' if they are to meet their stakeholders' needs and assure accountability to their citizens by using predictive and prescriptive data analytics strategically, along with digital, mobile, and cloud technologies.

In the past, it has been assumed that only the private and regulated sectors of business have needed to focus on technology. Now, however, the government finance function must also rise to the challenge. The growing role of technology in an increasingly competitive environment has never been more relevant. We are now in the age of finance digital transformation.

SMAC Technologies

Technology is at the heart of public service transformation, and government officials are increasingly adopting 'SMAC' technologies – social, mobile, analytics and cloud – to improve communications, gain efficiencies and economies of scale, and make better decisions. But knowing which investments will yield the greatest returns, and how to execute a strategy to roll out new platforms and systems effectively, can be truly daunting.

Managing local government performance: Transparency, technology, talent and transformation, CGMA, 2014¹

Finance digital transformation: roles and leadership

Table 1: The roles of finance and leadership in technology¹

Technology	Role of finance (value-adding)	Role of leaders (empowering)
Making the right investment choices which will support and enable the transformation of public services.	Providing the right information to support investment decisions and calculating cost and value benefits.	Acting on the information provided and making decisions based on solid evidence of citizen benefit.

Our initial research indicated that when it comes to technology, the main roles of finance professionals and leaders were focused on investment decisions. However, it is also clear that these roles are expanding to include a broader focus – increasingly, finance professionals are working with colleagues across the business to translate data-driven insights into impact. We recognised this shift in the 2015 report **'Finance Business Partnering: the conversations that count'**. This identified the need for organisations to develop new competencies in order to benefit fully from improvements in data collection and analysis.

Finance Business Partnering

"Management accountants... must develop an understanding of the data sources in the business and work closely with colleagues in IT to capture and extract data from the organisation's IT systems. Second, they should engage with data scientists to help ask the right questions of the data and interpret insights and patterns arising from the analytical process. Finally, they must work closely with managers across the business to help ensure that data is gathered and interpreted properly to help inform business decisions."

Finance Business Partnering, CGMA, 2015⁴

Government leaders, too, have an expanded role. It is no longer enough simply to make the right investment decisions. Working together with their IT and finance colleagues, they now have a significant role to play in helping to embed new data and digital initiatives. Leading by example, they must ensure that the information and insight generated is used proactively to support better, more sustainable public services.

"It's important that government technology leaders realise these changes are not fads."

Ted Ross, CIO, Los Angeles Information Technology Agency

Data planning and infrastructure

The pace of change in the digital environment means that senior leaders now have access to richer sources of data than ever before. However, recent CGMA research indicates that information overload and data management issues are hindering effective decision making.⁵ Without analysis and insight, data is not knowledge. This is for the simple reason that numbers usually require explanations, context and conversations to become meaningful. So, how can leaders translate data into actionable insight?

As with any resource, responsible planning and management are key to maximising return.

The CGMA Global Management Accounting Principles define data planning as “the sourcing, assembling, refining, and presenting of all data needed to evaluate and prioritise options, set targets, predict outcomes, and measure execution as crucial elements of the planning process”⁶.

Best practice data planning, we found, covers the entire value-generation process (or business model). It will also invariably include financial, non-financial, and hybrid data in a structured and controlled environment. The data plan should also include details about the information technology needed to support the cost-effective sourcing, assembling, refining, and presentation of data.

Data should be structured to incorporate all elements of the business model – input, activities, outputs and outcomes. It should have the following features:

- ✓ Explicitly linked to organisational objectives
- ✓ Rigorously prepared
- ✓ Supports decision making
- ✓ Readily accessible and intelligible to users
- ✓ Secure
- ✓ Comprehensive
- ✓ Consistently defined and labelled
- ✓ Resilient to change and adaptable
- ✓ Efficient

The Open Data Institute (ODI) was established in 2012 by Web founder Sir Tim Berners-Lee to address the global challenges involved in using data. It considers data to be more than a resource:

“Data is infrastructure. It underpins transparency, accountability, public services, business innovation and civil society.”

What is data infrastructure?, ODI, 2017⁷

Data infrastructures, as defined by the ODI, comprise technology, processes, and organisation. They can exist at city, national, or global levels. Data infrastructure consists of data assets: organisations, the individuals or alliances that operate and maintain them, and guides that describe how to use and manage the data. Strong, accessible data infrastructures can build trust, increase accountability, promote cross-sector alliances, encourage innovation, and enable citizens to make informed decisions about the communities in which they live and work.

Digital transformation

In recent years, we have seen governments move from digitisation, the transfer of manual records to digital formats, to digitalisation. This takes advantage of digital technologies to do things differently, such as the online payment of taxes. Research by McKinsey indicates that across the world the annual economic value of these initiatives could be as high as \$1 trillion, in terms of improved cost and operational performance.⁸

Digital transformation leverages digital technologies to do different things, changing operating models to enable new opportunities for creating revenue and value. Finance professionals in the government sector agree that digital technologies are crucial to current and future success. They also agree that the communication and integration of strategy are integral to that success.

The impact of digital is rapidly growing as government entities increasingly deploy the cloud, data analytics, mobile solutions, and social media. They are doing so not only to provide performance data and online services to citizens and other stakeholders, but also to exploit internal opportunities to improve operational quality and efficiency.

But some public services are still running on slow, fragmented computer systems from the 1980s. In such cases, government faces a significant challenge. They need to take an 'ecosystem' approach to overcoming silos, creating economies of scale, re-engineering obsolete or inefficient processes, and enabling integrated services across and between government organisations.

The following examples illustrate some ways in which local government bodies are leveraging technology to provide their citizens with properly integrated services.

Preparing citizens for emergencies: Florida Palm Beach County Damage Assessment Resource Tool (DART) (U.S.)

Palm Beach County Public Safety Department developed DART as a website and mobile app to help citizens prepare for, and the County to respond to, an emergency. It allows users to keep up to date with current activities at the County's Emergency Operations Center. It also enables them to check a location to see whether it is in an evacuation zone and, if so, whether or not that zone is under an evacuation order. Users can also view a list of shelters, get driving directions from their location to the nearest shelter, and report damage to their home or business.

The tool also makes available real-time information on facilities with generator backup capabilities, such as hardware and supermarkets and petrol stations.

It also has information on damaged or flooded residences and businesses. Employing mobile phone GPS, County staff can use citizen reports to identify exact locations of the affected areas.

The information obtained from DART helps emergency managers develop a County-wide 'picture' within hours of a disaster, enabling them to plan and implement the appropriate response and recovery efforts. They use data from the app in conjunction with the County's GIS mapping system to identify the major impact areas. All information received is relayed to damage-assessment teams, giving them additional information to use in the damage-assessment process.

(DART is one of the many Palm Beach County applications for providing government services that can be found at discover.pbcgov.org.)

How online tax tools are reducing the burden on administrators: Pennsylvania State Government e-SOA (U.S.)

The Pennsylvania state government's electronic statement of account (e-SOA) initiative⁹ is an example of how using low-cost technology can make a big difference in using resources to drive high citizen satisfaction.

At the request of tax practitioners, the Pennsylvania Department of Revenue developed and launched a tool for sending e-SOAs to taxpayers. Previously, business taxpayers and tax practitioners had to call or write to the department to request a printed copy of their statement, and then wait days for it to arrive. With this self-service tool, an electronic statement is available the business day after they submit an online request. This faster and more efficient process is consistent with the state's mission¹⁰ – to use the latest technology to deliver exceptional public service.

To let people know about this new development, the Department of Revenue created several informational tools, including a short YouTube video with an overview of the e-SOA and how to access it. The department also partnered with the Pennsylvania Institute of Certified Public Accountants (PICPA) – the state's CPA society – to raise further awareness. PICPA shared the video and a blog through its robust social media channels and in press releases.

This collaboration is proving successful. Following the launch of the communication programme, requests for an e-SOA increased 25% in the first month and 50% in the second month. In less than three months, more than 5,000 e-SOAs were requested. As a result, the Department of Revenue is printing and mailing fewer statements, which can be hundreds of pages in length. Currently, the department is on track to fulfil 20,000 e-SOA taxpayer requests each year, translating on an initial count into an average monthly reduction of 1,600 phone calls.

The above cases demonstrate how communicating with citizens in a timely manner can reduce the administrative burden on citizens and government entities alike. We have found that digitalisation can also involve citizens in developing and delivering better public services. Although engagement activities often start with communications addressing the entities' desired mission and strategies, the resulting citizen feedback often leads to improved performance and service benefits.

Engaging citizens with budget priorities: Kansas City's Balancing Act Tool (U.S.)

Kansas City, Missouri's so-called 'Balancing Act Tool' aims to improve citizen engagement while incorporating them in the budget development process. This is done through 'Pick your Priority', an interactive game for citizens in which residents choose their priorities for city funding.

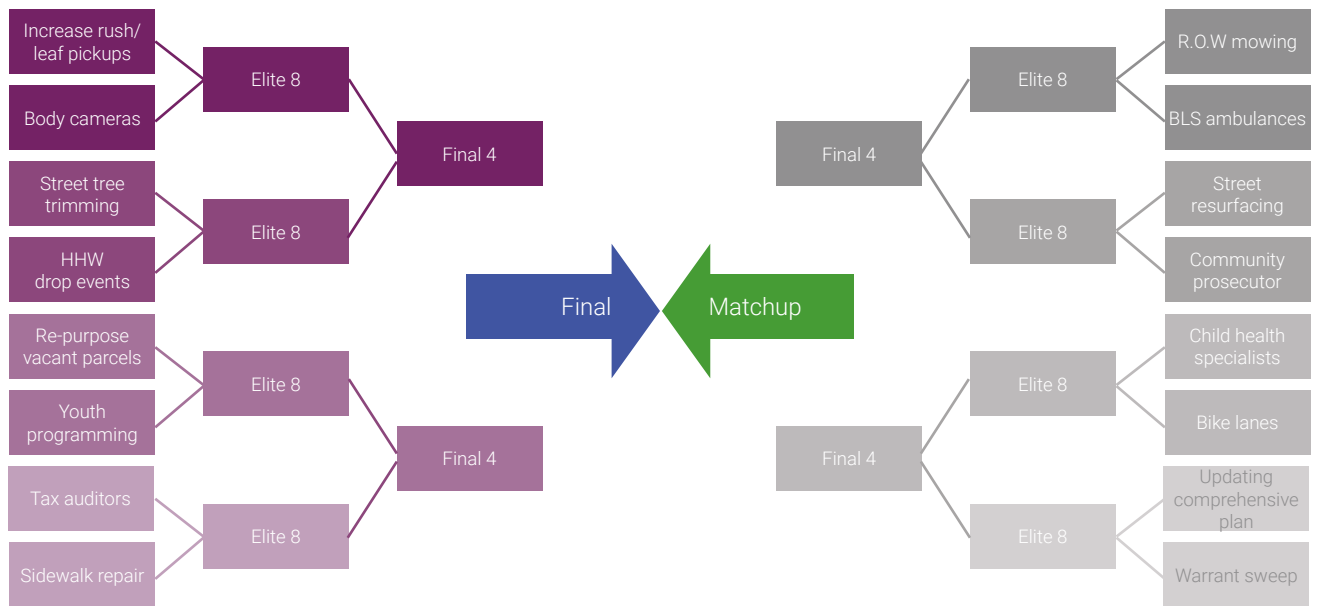
The game is set up in the form of an athletics tournament, where residents play four rounds of programme-to-programme matchups. The winner of each match-up progresses to the next round, with the last two standing meeting in the final. In the game,¹⁶ programmes or city services represent the City Council's goals for: finance and governance; neighbourhoods and healthy communities; housing; planning, zoning and economic development; transportation and infrastructure; and public safety.

Each programme gives residents an opportunity to show how they think city leaders should incorporate an additional \$1 million in their budget. At the same time, the programmes highlight to residents just how difficult trade-offs can be when funds are limited.

According to Scott Wagner, Mayor Pro Tem and Finance Committee Chair of Kansas City, the Balancing Act Tool "provides a unique way to help us make difficult resource allocation choices by allowing them to choose what programmes are critical or less important within the framework of budgetary limitations. This web tool will provide us with a means to understand their aspirational goals for our City because we are all in this together."¹¹

The Pick Your Priority game, meanwhile, tells the City Council and city management what citizens see as the most important priorities for next year's budget. Feedback helps set the overall direction of the budget, and citizens gain additional opportunities to provide public comment when the annual budget goes to the City Council for approval.¹²

Figure 2: Kansas City's Balancing Act tool¹³



Communication to and from citizens: Queensland Police Service (Australia)

The cases above show that communication is a key element in delivering effective technological advancement. Communication is also crucial in times of crisis, as was evidenced by the aftermath of the 2008 Mumbai terrorist attacks, where social media dominated mainstream media coverage.

In response to this and other high-profile examples of social media use, the Queensland Police Service (QPS) began a trial use of Facebook, Twitter, and YouTube in 2010. This aimed to engage citizens in a two-way conversation and to develop and mobilise the online community in the event of a disaster.

The first test came in December 2010, when a series of floods hit Queensland and forced the evacuation of thousands of people from towns and cities. At least 90 towns and over 200,000 people were affected. There were 35 deaths and three-quarters of the state was declared a disaster zone.

In the 24-hour period following the flash floods, the number of 'likes' on the QPS Facebook page increased from approximately 17,000 to 100,000; 39 million post impressions were generated, equating to 450 post views per second.

The police Public Affairs team recognised that social media was the ideal vehicle to reach the public and the media in the shortest timeframe. During the aftermath of the floods, the team used Facebook and Twitter as a centralised clearing house for disaster-related issues, provided live streaming of media conferences, and acted as a 'mythbuster' of misinformation and rumours from the media and community. Within days, mainstream media were relying on the police feeds for information.

A QPS report¹⁴ into how social media was used during the crisis identified the following benefits of their approach:

Immediacy: allowing police media to proactively push out large volumes of information to large numbers of people, ensuring there was no vacuum of official information.

Trust: as an official source, the QPS Facebook page became the trusted, authoritative hub for the dissemination of information and facts for the community and mainstream media. Rumour and misreporting were quickly and easily quashed before becoming 'fact'.

Relevance: large amounts of specific information could be directed straight to communities.

Two-way communication: providing immediate access to, and feedback from, the public.

Social media also provided situational awareness for QPS members working in disaster-affected locations.

Seven years on from the Queensland flooding, the police social media feeds remain high profile. While much of the content revolves around everyday police work, QPS recognises the importance of community engagement and is known for its innovative approach to content, often sharing jokes and making reference to popular culture in their messaging; one example of this was a warning to residents not to speed on their way home to watch a TV premiere. This human touch has proved very effective not only in improving public perceptions of the police but also in building wider networks as posts are liked and shared.

With over 819,000 likes on their Facebook page and 135,000 Twitter followers, QPS is one of the most successful examples of police social media, proving that social media in government can, and should, be more than a one-way broadcast channel.

Open data and innovation

A 2015 briefing from the Organisation for Economic Co-operation and Development (OECD)¹⁵ highlights the fact that under-investment in data risks undermining countries' capacity to innovate.

In recent years, interest in the concept of open data has been rising. Open data originated with the belief that data collected by government organisations should be made available to all citizens. The World Bank's Open Data Toolkit¹⁶ reports that since the first government open data policies appeared in 2009, more than 250 governments at national, subnational, and city levels have launched open data initiatives. Almost 50 developed and developing countries, as well as entities such as the European Union and United Nations, have also done this.

Data are considered to be 'open' if anyone can freely use, re-use and redistribute them, for any purpose, without restrictions. While a large amount of data is published on government websites, the majority of published data is intended only to be read as stand-alone documents, not re-used for other purposes. To be considered 'open', the data must be re-usable, meaning they can be downloaded in open formats and read by software, and users have a legal right to re-use it.

Open Data in 60 Seconds, The World Bank, 2016¹⁷

What is open data and why is it important?¹⁸

In a well-functioning democratic society, citizens need to be informed and have access to information on government policies and progress.

Open data – data which is freely available and shareable online, without charge – dramatically reduces the time and money citizens need to invest to understand what government is doing and to hold it to account. At the same time, because open data is made available in bulk and in formats that simple computer programs can analyse, comparing and combining data from different sources becomes faster and easier, even across national boundaries. This greatly enhances the ability of policymakers, scientists and entrepreneurs to find solutions to complex development problems.

According to the open definition, to be truly open, data should be:

- ✓ **Available online** so as to accommodate the widest practical range of users and uses.
- ✓ **Open-licensed** so that anyone has permission to use and reuse the data.
- ✓ **Machine-readable** so that large datasets can be analyzed efficiently.
- ✓ **Available in bulk** so that it can be downloaded as one dataset and easily analyzed by a machine.
- ✓ **Free of charge** so that anyone can access it no matter their budget.

The benefits of widely available and easy-to-use data can be significant. However, as a relatively recent development, its broader potential has not yet been realised. Among many other positive outcomes, strategically used open data can improve policy-making and service efficiency, stimulate innovation, and improve public safety. But while organisations like the Open Data Institute and World Bank have put significant effort into engaging, familiarising, and helping governments to publish open data, they recognise that the embedding process is essential to achieving long-term sustainability and impact.

Physical infrastructure such as roads and bridges enables benefits to 'spill over', for instance, by fostering trade and social exchanges. In the same way, greater access to data also has beneficial spill-overs, whereby data can be used and reused to open up significant growth opportunities, or to generate benefits across society in ways that could not be foreseen when the data were created. But some of the spill-overs of data cannot be easily observed or quantified (e.g. socialisation and behavioural change, cultural and scientific exchange, or greater levels of trust induced by transparency). As a result, countries – and governments in particular – risk under-investing in data and data analytics and may end up giving access to data for a narrower range of uses than socially optimal.

Data-driven Innovation for Growth and Well-being, OECD, 2015

Open data at City Hall, London (U.K.)^{19,20}

City Hall houses the Greater London Authority (GLA), a unique form of local government created in 2000 to give Londoners more of a say in the way their city works. Working with London's councils, central government, and many other bodies, the GLA plays an important role in many aspects of London life.

City Hall is headed by a Mayor, directly elected by Londoners every four years, who has a multi-billion pound budget (funded through taxes, transport fares, and business rates). This is used to improve London by making investments in key services such as policing, transport, fire services, and the environment. The Mayor is held to account by the 25 members of the London Assembly, who are elected on the same four-year cycle. Their role is to act as the eyes and ears of Londoners at City Hall, examining the Mayor's strategies, decisions, and actions to make sure they are in the public interest.

The GLA has stated its intention to lead the way in openness and transparency. It has committed itself to publishing operating and performance information and to ensure that decision making processes and governance arrangements are accessible.

To encourage analysis, understanding, and innovation, the GLA is also committed to freeing the data it holds and to encouraging others holding data on London to do the same. The GLA established the Smart London Board in 2013 to further this aim and develop a city-wide approach to digital technology. With an ever increasing range of data sources, from individuals and households to sensitive data from hospitals, energy companies and infrastructure providers, interoperability of data is considered a priority. Efficient data exchange will drive London's analytics and predictive modelling capabilities.

“Our emphasis now is very much on developing ‘city data’ as an extension of open data. This switch is part of our move towards City Hall and London’s public services being much clearer about the uses to which they want to put data, whether this is to better understand the night time economy, or to help customers of complex services like adult social care make better decisions with data driven products. Publishing open data will always be important to us, but establishing the data we really need to tackle problems and capitalise on opportunities is core to our future success.”

Andrew Collinge, Assistant Director, Intelligence, Greater London Authority

The future vision for London’s city data is that it will be recognised as part of the capital’s infrastructure, used to save money, to incubate innovation, and to drive economic growth. The [GLA’s London Datastore](#), which currently has over 70,000 unique visits per month, provides the technical infrastructure needed to underpin a ‘federated’ system for London’s city data. As data volumes increase, the Datastore will help inform policy and improve city operations, as well as supporting the new data markets that are likely to emerge.

The Datastore streams out free and open-source data on city performance, for use by developers both inside and outside government to make new software and platforms that help the city work better.

Using data science to improve living conditions: London Office of Data Analytics (U.K.)

The GLA aims to lift London’s organisational capacity around data usage in policy-making. One example of this is the London Office of Data Analytics (LODA) pilot, run by the GLA in conjunction with the innovation charity Nesta, which targets overcrowded accommodation across London. Predictive analytics are used to support and prioritise local authority investigations by identifying unlicensed Homes of Multiple Occupation. As well as improving living conditions for Londoners, the scheme aims to break down cultural and technical barriers to data sharing and to show that collaboration between local authorities and external bodies can lead to improved insight and better service delivery.

Understanding city-wide issues through harmonised data: the London Schools Atlas (U.K.)

In addition to helping local authorities, the GLA also works for citizens. [The London Schools Atlas \(LSA\)](#) is an innovative interactive online map providing a uniquely detailed and comprehensive picture of London schools. The LSA is a valuable tool for parents looking at options for their children, as well as for education providers and local planners working out how best to meet the needs of residents. Users are able to view a range of information about London's schools, including: school performance data; where they draw their pupils from; participation in initiatives (such as [Healthy Schools London](#)), and even travel time from their home. The Atlas can also display a range of relevant contextual information about London such as: expected future demand for places, neighbourhood characteristics and take-up of independent school places.

London's city data is an increasingly valuable asset, where developers are encouraged to use technology to creatively improve and redefine the functions of government services. With its population predicted to increase from 8.6 million today to over 10 million in 2036²¹, London is showing the world how data and technology solutions can support a city's growth.

Open data, by its very nature, is not restricted to internal government usage. Tech-savvy citizens are beginning to leverage open data to hold government accountable.

Local achievements are gaining greater recognition through initiatives such as the ODI Open Data Awards, which acknowledge innovation and excellence in open data across the world. Of particular relevance to citizen-led programmes is the ODI Social Impact Award, which celebrates open data used as a tool for social good.

Spending, budgets, and public policy activity: BudgIT and cMapIT (Nigeria)

Two Nigerian start-ups are having significant impacts in improving transparency: BudgIT²², winner of the ODI's Open Data Social Impact Award, is promoting widespread understanding of spending and budgets in the Nigerian government through showing a breakdown of government spending in its portal. It is also working with citizens to provide other datasets in public demand. It plans in future to provide detailed budget and spending data across Africa. The increased transparency this enables will help to combat corruption, particularly in the area of procurement.

cMapIT²⁴ meanwhile, winner of the ODI's Open Data Business Award, is an open-access platform that provides tools for citizens to track public policy and governance in Nigeria. Using geospatial data and drone technology to monitor public works including construction projects, the platform can already be seen to have improved government leadership, triggered a Nigerian civic tech community, and supported the health and agriculture sectors. cMapIT is also recognised as the most effective way to track government activity in Nigeria.

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“By making matters of public finance more comprehensible and figures more relatable to individuals across every demographic and literary span, we aim to reach the unreached in our quest to raise more civic-minded individuals, better able to discern, and take decisions pertaining to matters of national interest.”

BudgIT Impact report, 2016²³

Geospatial data is data with an identifying geographic or locational component, such as the latitude and longitude of a public building. It often originates from GPS (global positioning systems).

“We advocate for government to open up data that is bottlenecked by bureaucracy, regulations or poor governance. Our goal is to implement open and free solutions at local governments across Nigeria. In particular, we want to help local policymakers understand the need to engage geospatial information when deciding what to do with public resources, to cut waste and ensure policies are effective. Meanwhile, we encourage them to keep geospatial data open for active citizens to monitor progress.”

Abiri Oluwatosin Niyi, co-founder, cMapIT²⁵

Conclusion

Technology is key to harnessing the current and future requirements for government organisations to effectively manage, deliver, and exceed the expectations of citizens and stakeholders. Data and digital transformation will be at the heart of success and sustainability as local governments empower their citizens and finance teams towards increased collaboration, change management, and better community services.

Business partnering is becoming a reference for good governance in the digital marketplace, whether it is between internal departments or with other agencies, commercial vendors, or citizens utilising the service or facilitating service processes and disruption solutions. Beyond its immediately recognisable benefits, the use of technology provides a foundation for innovation, improves cybersecurity and projects transparency, transformation, and talent management into the future.

Government finance functions have a significant and innovative role to play in driving efficient, sustainable services that meet public needs.

Whether it is for a small municipal entity, a large metropolitan government or something in between, success is exemplified and made measurable through the resource efficiencies, cost savings, and economic development generated when new data technologies are successfully employed. As finance leaders, often management accountants, are increasingly empowered to act on information provided through the use of technology, success will be measured by the scale of citizen benefit.

Cross-functional working is crucial to success: as with all infrastructure projects, engineering the future can only be achieved through a co-operative partnership approach.

Look out for the second instalment of this topic, which addresses communication, strategy, and cybersecurity.

The CGMA local government research programme examines the supporting technology required to enable transformation and sustainability. It considers the effectiveness of responses to public demand for innovative digital solutions in an increasingly competitive market.

Visit www.cgma.org/government to learn more about the programme.

Further resources

Essential tools for management accountants

Global Management Accounting Principles®

Integrated reporting in the public sector

Joining the dots: Decision making
for a new era

The Open Data Institute (ODI)

Managing local government performance:
Transparency, technology, talent and transformation

Transparency: Improving local government performance

World Bank Open Government Data Toolkit

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Endnotes

1. Managing local government performance, CGMA, 2015, cgma.org/resources/reports/managing-local-government-performance.html
2. Throughout this report, we use 'digitalisation' to mean the use by entities of advanced digital technologies to do things better – see the Digital Transformation section for further details
3. Transformation and Transparency: managing local government performance, CGMA, cgma.org/resources/reports/transformation-and-transparency.html
4. Finance Business Partnering: the conversations that count, CGMA, 2015, cgma.org/resources/reportsfinancebusinesspartnering2015.html
5. Joining the dots: Decision making for a new era, CGMA, 2016, cgma.org/resources/reports/joining-the-dots.html
6. Global Management Accounting Principles, CGMA, 2014, cgma.org/resources/videos/global-management-accounting-principles.html
7. What is data infrastructure?, Open Data Institute, 2017, theodi.org/what-is-data-infrastructure
8. Public-sector digitisation: The trillion-dollar challenge, McKinsey & Company, 2014, mckinsey.com/business-functions/digital-mckinsey/our-insights/public-sector-digitisation-the-trillion-dollar-challenge
9. Revenue Department Launches New e-Statement of Account, PICPA, 2016, picpa.org/articles/cpa-now-blog/cpa-now/2016/09/16/revenue-department-launches-new-e-statement-of-account
10. Vision and mission, Pennsylvania Department of State, 2017, dos.pa.gov/about-us/Pages/Vision-and-Mission.aspx
11. "Pick Your Priority" Interactive Exercise, City of Kansas City, Mo, 2016, mysidewalk.com/organisations/293514/pick-your-priority-bracket
12. Balancing act tool, City of Kansas City, Mo, 2015, kcmo.gov/finance/2015/10/06/balancing-act-tool
13. City services: click your priority, City of Kansas City, Mo, 2016, kcmo.gov/finance/2016/10/03/city-services-click-your-priority
14. City of Queensland Police, Disaster Management and Social Media – a case study, 2011, police.qld.gov.au/corporatedocs/reportsPublications/other/Documents/QPSSocialMediaCaseStudy.pdf
15. Data-driven Innovation for Growth and Well-being, OECD, 2015, www.oecd.org/sti/ieconomy/PolicyNote-DDI.pdf
16. Open Government Data Toolkit, The World Bank, 2016, opendatatoolkit.worldbank.org/en/index.html
17. Open Data in 60 Seconds, The World Bank, 2016, opendatatoolkit.worldbank.org/en/open-data-in-60-seconds.html
18. Open Data Barometer © 2015 Web Foundation
19. What the Mayor of London and the London Assembly do, London Elects, 2017, londonelects.org.uk/im-voter/what-mayor-london-and-london-assembly-do
20. A guide to City Hall, Greater London Authority, 2017, london.gov.uk/sites/default/files/a_guide_to_city_hall.pdf
21. London Datastore, Greater London Authority, 2017, data.london.gov.uk
22. BudgIT, 2017, yourbudgit.com/
23. BudgIT impact report, BudgIT, 2016, yourbudgit.com/impactreport/Budget.html
24. CmapIT, 2017, cmapit.com
25. Niyi Abiri: 'Policymakers need geospatial data to target public resources', Open Data Institute, 2016, theodi.org/blog/niyi-abiri-policymakers-need-geospatial-data-to-target-public-resources



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