Open data in government: how to bring about change

Open Data Institute
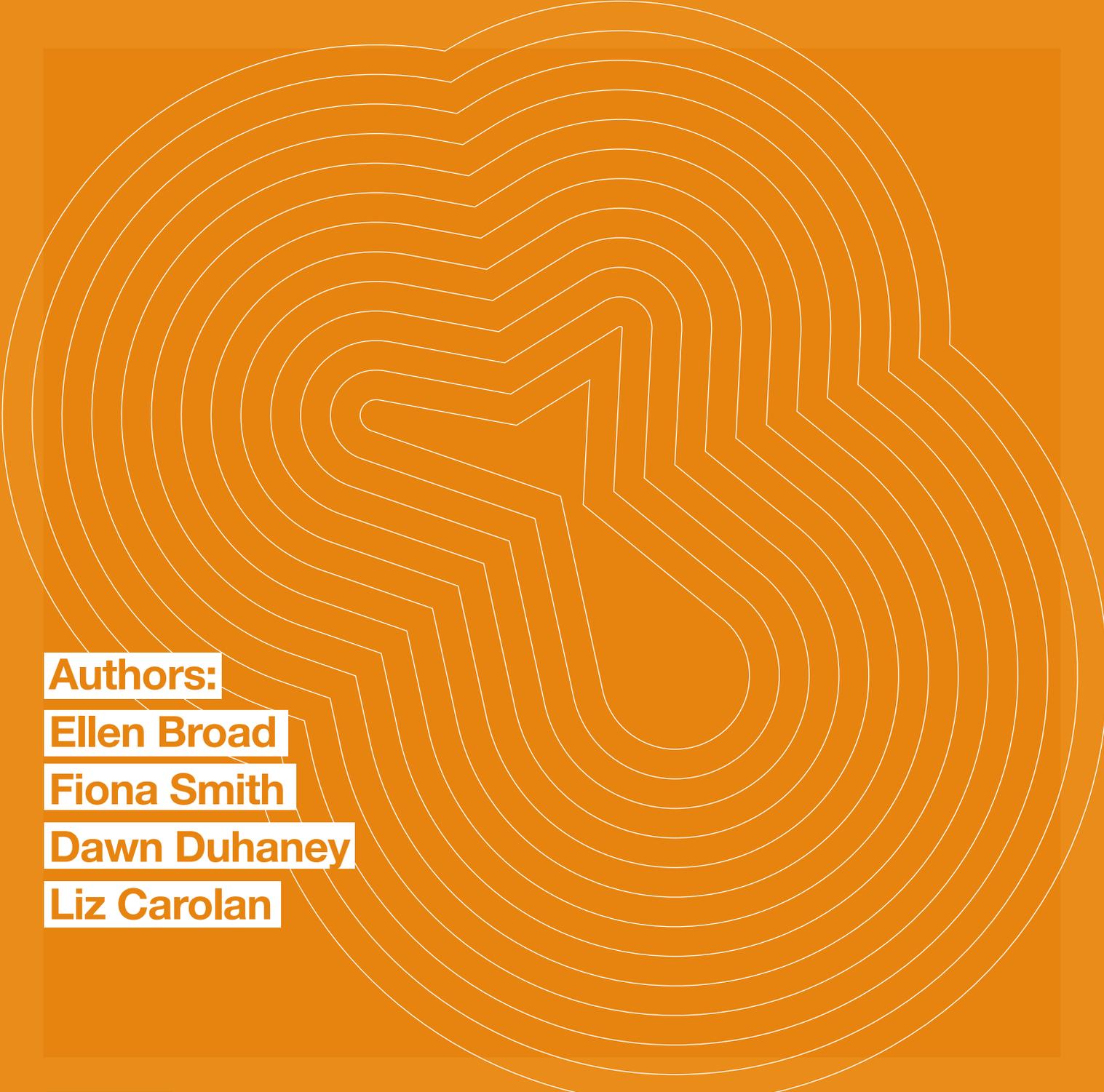
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Executive summary

Governments around the world are increasingly looking for ways to harness the potential of open data for improved policy-making, and social, economic and environmental benefit. A lot of work has been done to familiarise governments with open data and help them to publish open data. There has been less focus on the longer-term process of embedding open data as standard practice and how that might happen. **Ensuring your open data initiative is sustainable is essential to realising the impact of open data.**

The Open Data Institute (ODI) is exploring how organisational change within government happens to support and sustain open data in the long-term. Through extensive interviews and examination of the literature surrounding organisational change management, the ODI has developed guidance for policy-makers who have been tasked with implementing their own open data initiatives. Thinking about the process of change management from the beginning of your initiative will be essential to realising the social, environmental and economic benefits of open data.

The result: 12 recommendations to help governments sustain open data change and realise its impact

1. Articulate your vision, with clear examples of benefits open data will bring.
Start with a vision of the problem open data can help you solve, or the benefits you want to produce: think beyond simply releasing open data. Being able to connect your release of open data to a tangible benefit you would like to achieve can help people connect to the initiative and understand its value.

2. Secure support for your open data initiative from both senior/political leadership and government officials within departments before launch.
Build in mechanisms to educate government officials about open data, and explain its benefits, from the very beginning of your open data initiative. Fostering support for the change before launching an initiative will help encourage early uptake.

3. Combine top-down leadership for your open data initiative with support for individual or frontline champions in government.
While senior buy-in is important to maintain open data as a priority, frontline champions are important to growing the initiative from the bottom up, and driving implementation of your open data vision.

4. Build open communication and mechanisms for feedback into your open data initiative from the outset, both inside and outside government.
These could be formal mechanisms, like advisory groups, online feedback forms and regular meetings, and informal mechanisms, like social media outreach. Invite feedback and be open with your department(s) about the transition to using and producing open data, and how their work could be affected. This will ensure employees are more engaged and satisfied with the change.

5. Set out some quick wins for your open data initiative – like releasing a certain number of datasets as open data, or supporting a pilot use-case – but make sure these are part of a long-term goal for open data, which each department can align progress with. Linking quick wins to long-term goals can help maintain momentum for change.

6. Be flexible and responsive to the strengths and needs of different departments and teams.
Be clear on your long-term vision for open data, but be careful not to get locked into one transition plan for open data from the beginning. Look for examples of best practice in managing the transition to using and producing open data, and use these to help other departments. Being agile and responsive helps ensure the transition continues to align with any public sector reform and changing technologies.

7. Consolidate your change management efforts: use your emergent leaders as peer educators and innovators. Keep building on your incremental quick wins as part of your long-term open data strategy. Consolidating efforts helps to make each element of change management more effective, and helps identify gaps in strategy.

8. Ensure there are people with responsibility for change management – supporting departments and coordinating feedback – as part of your open data team.
Quite often, we think of a 'change team' as being set up to deliver open data objectives: build a portal, release datasets and stimulate reuse. Change management is an equally important part of the process, and can increase initial buy-in for the initiative, as well as a sense of ownership within departments of their open data efforts.

9. Seek out and foster stories of the impact of open data, to help illustrate its value for government implementers. Adjust your impact narrative or 'business case' for different departments, so it makes sense in terms of their overall visions, capacities and existing processes.

10. Foster external support within industry, civil society and academia to drive continued demand for open data. External support can help to maintain political will to support open data, and be a source of ongoing learning and dialogue.

11. Introduce opportunities for civil servants to take part in ongoing learning about open data.
This could be through open data training, secondments to 'best practice' teams working with open data or regular workshops. It will help you continue to improve and expand the reach of your open data initiative.

12. Build metrics to regularly evaluate your open data activities. This will help you to measure progress, benchmark success and identify areas for improvement.

The guidance is not absolute; some principles will be applied differently in different contexts. However, the principles for managing open data change that are set out in this paper should provide a useful framework or template for long-term thinking.

This paper is the starting point for a deeper exploration of how change happens in government to support open data. Over the next 12-18 months, we will look to build on the themes and scope of this paper, through ongoing research and discussion with global leaders.

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Open data in a global context

Open data has been embraced as a key transforming initiative by global government institutions. The introduction of the Open Government Partnership[1] in September, 2011, aligned open data with a broader global commitment to open government. In 2013, G8 countries endorsed the G8 Open Data Charter, committing to making public sector data 'open by default'. Since then, the G8 Open Data Charter has been the foundation for other governments' open data initiatives; for the promotion of open data principles in other international fora; and for the development of a potential international Open Data Charter.

The growth of the Open Government Partnership has been accompanied by an increase in projects designed to support and evaluate open data initiatives taking place internationally, which include the Partnership for Open Data. The World Bank Open Government Data Working Group introduced Open Data Readiness Assessments to help countries assess their preparedness to design and implement open data initiatives. The Web Foundation and International Development Research Centre (IDRC) are coordinating the Open Data Research Network, designed to help open data researchers around the world connect and share their experiences. The Open Data Barometer has provided a means of benchmarking different open data initiatives worldwide.

This energy has fueled increasing awareness of open data around the world. Transforming open data from being something novel to normal for governments is the next challenge. The extent of the value that can be unlocked by open data will depend on the sustainability of each government's open data initiative. The role of global organisations can be to ensure that such normalising is assessed and supported in the long-term to ensure sustainable benefits.

Understanding the structure of this paper

This paper focuses only on the organisational change aspect of implementing open data: what comes after its announcement or the first burst of excitement around it. It does not evaluate the impact of existing open data. Nor does it try to establish the criteria to make it successful, which is hard to define and will be different from country to country.

It is intended to prompt and frame discussion and future work in this area for the ODI and others.

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1   Open Government Partnership website: http://www.opengovpartnership.org

In future, we would like to expand our list of countries surveyed to at least 10, and increase the number of interviewees for each country. We will continue to explore ways to build on this first paper, and welcome feedback and suggestions.

One clear insight from the interviews captured so far has been that that organisational change to support open data happens differently in different contexts. What worked in Estonia, for example, may not work in Chile. How the organisational change guidance offered by this paper can be applied will, to some extent, depend on the country context and the context of the public sector agency.

The challenges inherent in structuring change management guidance for open data are reflected in the structure of this paper. We began with 10 common principles for change management, which we tested through interviews with government officials involved in open data initiatives. From these, we reached with our recommendations for open data change management. The resulting paper is separated into three parts:

Part 1 - Getting started: preparing to launch your open data initiative
Part 2 - Following launch: harnessing enthusiasm for open data
Part 3 - Embedding open data into normal government practice

Several of the common principles for change management are important factors at more than one stage of an open data initiative. Where there is overlap, we have summarised all of the change management guidance that could apply.

The interviews we undertook represent a small sample of the shift towards open data taking place within governments and organisations around the world. This paper is intended to support the work of policy-makers, and prompt a wider conversation about how governments can change their organisational practices to support open data. We look forward to building on our work on this area in 2015.

How we came up with our guidance on sustaining open data change

1. We started with a literature review

Over the past 50 years, a rich literature exploring organisational change management has emerged. Building on this work, this report aims to identify an organisational change framework that governments can apply in the context of open data.

While much has already been written about how to lead large organisational cultural transformation initiatives, the vast majority of guidance that exists comes from the private sector.[2] Organisational culture in the public sector can vary from the private sector considerably, so we approached private sector knowledge on organisational change with some caution.

In search of guidance for public sector leaders, we drew on a wide range of literature, including traditional business management models, public sector reform theory and case studies on previous public sector digital transformation initiatives.

Drawing on this existing change management literature, we identified 10 common principles for change management to be tested through interviews and adapted for an open data context.

2. We tested our literature review findings through interviews

All of those interviewed in each country were government officials tasked with helping to make the transition to using and producing open data. To identify a limited number of countries to survey, we considered the countries ranked highest in their region in the Open Data Barometer, 2013. To this list, 2-3 countries were added that had recently undertaken significant open data activities, to ensure that countries from every region were represented. Within each country, one 'visionary' and one 'implementer' were identified to be interviewed. The 'visionary' was someone within or outside government who initiated, influenced and/or shaped interest in open data. The 'implementer' was someone in government who had been involved in carrying out the open data initiative.

In the first instance, we interviewed government officials from seven countries:

- The UK
- Estonia
- Republic of Korea
- Kenya
- Mexico
- Chile
- Macedonia

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2   Burke, W. W., & Litwin, G. H. (1992) '*A causal model of organisational performance and change',* Journal of Management, 18(3), 523-545; Kotter, P. (1995) *'Leading change: Why transformation efforts fail'*, Harvard Business Review, 73(2), 59-67; Ackermann Anderson, L., & Anderson, D. (2010) Beyond change management: How to achieve breakthrough results through conscious change leadership, John Wiley & Sons.

In the UK, we looked at open data change management on two levels: i) within an individual department – in this case, police.uk – and ii) across government, as part of the UK's broader open data agenda, coordinated by the Cabinet Office. The first iteration of police.uk preceded the adoption of open data as official UK Government policy, and is considered an early open data success story.

Comparing open data initiatives at these two levels gave us some interesting insights into how different change management principles worked in different contexts. In any future iteration of this paper, it would be useful to expand on police.uk with comparisons of other departmental open data initiatives in the UK and elsewhere.

10 principles for change management

These are the principles that were drawn from our review of the literature surrounding change management, and which provided a starting point for examining change management in the context of open data. These principles were tested through interviews with government officials in seven countries. Based on the principles and interviews, we came up with our own recommendations for managing organisational change to support open data.

The common principles we began with were as follows.

1. Build agreement for change
Build a "constituency for change"[3] to help prepare the organisation for the change ahead. Anticipate barriers, plan training and develop supportive communications.

2. Develop a shared vision and strategy
Share a vision that aligns with the ethos of the organisation. Involve staff in developing the vision, and communicate it often using different mediums and platforms.

3. Get a 'change team' together to guide the change process
The change team should be diverse, both in terms of skills and representation, with respected civil servants ('insiders') to ensure broad buy-in and solicit feedback. An external advisory group can also be helpful.

4. Combine top-down and bottom-up leadership styles
Strong leadership and commitment from top levels of management should drive the vision

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3   Kelman, S. (2005) *Unleashing Change: A study of organisational renewal in government*, Brookings Institution Press

and initiate the change process, combined with an emergent style which harnesses bottom-up knowledge and expertise.

5. Make change sustainable and find quick wins
To ensure you have long-term support for the transformation, plan for tangible results that can be achieved quickly and early.

6. Human resources and structure are enablers, not barriers, for supporting transformation
Modify structures, policies and incentives regarding hiring, job titles, rewards and skill-sets to align with the needs of your initiative. Incentivise behavioural change and leadership, allow staff to innovate, and empower individual agencies to develop their own open data solutions.

7. Maintain open communication and trust
Create an environment which supports two-way communication (via internal and external channels), so that critics and supporters have equal voice, and employees understand the objectives of the initiative and can make a serious contribution to the programme.

8. Become a learning organisation
Track progress and commitment to change, and demonstrate a readiness to admit mistakes publicly. Iterate and make changes quickly ("fail fast, fail cheaply"), while continually reviewing success metrics.

9. Be agile and responsive
Embrace experimentation and innovation through rapid design and piloting before scaling-up. Place 'users' at the core of any project design, and adjust plans based on regular user-testing and reviews.

10. Monitor long-term change
Crowdsource stories from frontline data-users in different contexts to inspire your vision for how open data can bring benefits. Tap into external sources of support to encourage long-term engagement.

See Appendix 1 for full descriptions of these starting principles.

3. From our literature review and interviews, we developed our recommendations to sustain open data change

By testing our '10 common principles for change management' against interviews with government officials in countries where open data initiatives had already been introduced, we have developed guidance to help policy-makers manage the transition to using and producing open data. Whether change is a linear process that should be followed step-by-step, or whether it is multi-directional, is a question that divides the literature around organisational change management.[4]

Based on our interviews and literature review, we believe that the best approach may be to manage change as a number of interrelated elements, like having senior level leadership and internal feedback mechanisms, which can be applied in different combinations and at different times.[5] Given the size and nature of the public sector, as well as some unique characteristics of open data (being cross-departmental, frequently coordinated by one central agency, with a high degree of IT involvement), it is unlikely that there will be opportunities to implement change management guidance in a strict sequence, progressing from step A to B to C.

The seven countries interviewed: an overview of open government data

Mexico

Datos.gob.mx, the Mexican government's official open data portal, was launched in July, 2014, with the help of the Partnership for Open Data, which brings together the World Bank, the Open Data Institute and Open Knowledge. The portal launched with 100 datasets: 10 from each of 10 selected government departments. Mexico is ranked 25th in the world and 3rd in the Americas in the Open Data Barometer, 2013. Open geographic and socio-economic data have allowed the National Council for the Evaluation of Social Development Policy (CONEVAL) to produce interactive maps showing how poverty and disadvantage are distributed across Mexico, so anyone can understand how their region compares to others.

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4   Kotter, P. (1995) *Leading change: Why transformation efforts fail*, Harvard Business Review, 73(2), 59-67; Hiatt, J. M.

(2006), ADKAR: *A model for change business, government and our community*, Prosci Research; Burke, W. W., &. Litwin, G.

H. (1992) *A causal model of organisational performance and change*, Journal of Management, 18(3), 523-545

5   Ibid all

Estonia

Estonia's Public Information Act mandates that data be made available in an open and machine-readable form from 1 January, 2015, and a data portal has been piloted (opendata.riik.ee) to provide access to this data. While the portal is in its pilot phase, access is only available to a small number of datasets. However, a substantial amount of data is available via direct connection to Estonian government databases. In 2011/12, the Ministry of Economic Affairs and Communication estimated that there were around 20,000 datasets. The Ministry of Economic Affairs and Communications is responsible for the portal, and for coordinating the process of making data from other Ministries' available openly. In the Open Data Barometer, 2013, Estonia's open data performance is ranked 14th in the world and 9th in Europe.

Republic of Korea (South Korea)

South Korea's open data portal, data.go.kr, is managed by the National Information Society Agency and provides access to over 11,000 data files. The portal was introduced in 2011, the same year South Korea joined the Open Government Partnership, with the goals of empowering citizens, increasing transparency and harnessing new technologies for stronger governance and greater innovation. South Korea is ranked 12th in the world and third in the Asia-Pacific by the Open Data Barometer, 2013.

Kenya

In July, 2011, the Kenya Open Data Initiative was launched by President Mwai Kibaki, making key government data freely available to the public through a single online portal, opendata.go.ke. By November, 2011, there were 390 datasets available through the portal. Open data in Kenya aims to drive innovation, generating economic and social value, to enable data-driven decision-making by parliamentarians and policy-makers, and to improve transparency and accountability. The Ministry of Information and Communications and the ICT Authority are responsible for the portal. Kenya was ranked 1st in Africa and 22nd in the world by the Open Data Barometer, 2013.

Chile

Chile's open data portal, datos.gob.cl, was launched in 2012, alongside a presidential mandate committing the state to publishing data in open and reusable formats. At the time, officials and Ministers cited the benefits for the community through access to information on traffic, health service and schools, as well as for the strength of democracy in Chile. The Ministry of the Secretary General of the Presidency (MINSEGPRES) was responsible for setting up the portal, working with other departments to add new datasets. The portal now provides access to 1,180 datasets. In the Open Data Barometer, 2013, Chile's open data performance was ranked 25th in the world and 4th in the Americas.

Macedonia

Macedonia's open data portal, opendata.gov.mk, was launched in 2012 as part of the process of becoming a member of the Open Government Partnership, an international community of 65 countries committed to making government more transparent, accountable and responsive to citizens. In addition to the Open Government Partnership, Ministers highlighted the potential for open data to drive innovation, leading to economic benefits in Macedonia. The portal currently hosts 154 datasets and is managed by the Ministry for Information Society and Administration.

UK (Cabinet Office)

The UK's open data portal, data.gov.uk, was launched in 2009 by then Prime Minister Gordon Brown, to provide opportunities for business, increase transparency and empower consumers. The Cabinet Office was responsible for implementing the portal and coordinating other departments' contributions. Today, data.gov.uk includes 15,888 published datasets.The UK was ranked number one in the Open Data Barometer, 2013, both within Europe and globally. Applications of open data in the UK include transport mapping apps, flood alert services and rankings of many services, including schools, GPs and dentists.

UK (police.uk and data.police.uk)

In 2009, the UK's National Policing Improvement Agency launched maps.police.uk – the first time policing data had been made available via an application programming interface (API) to developers. This service evolved into data.police.uk, and has since grown to include over 19 million rows of data. The Home Office now publishes the data, coordinating data provided by 43 police forces across England, Northern Ireland and Wales, as well as the Ministry of Justice.

Part 1
Getting started: preparing to launch an open data initiative

An open data initiative can begin in many different ways. It could be initiated by a directive from the President or Prime Minister, following a meeting of the Open Government Partnership. It could be prompted by pressure from developers and startups for the government to release data for use to build services and apps. Alternatively, it could stem from an obligation to release open data as part of a regional or international agreement, like transposition of the European Union's Directive on Reuse of Public Sector Information 2013 (PSI) by EU member states.

Whatever the reason, the policy-maker tasked with transitioning a government department – or all government departments – towards publishing the data they hold as open by default will come up against some organisational culture resistance. While there are significant potential

social, economic and environmental benefits to be unlocked with this transition, policy-makers often need to convince government of the importance of open data first.

This section examines how to build in change management into any open data project from the outset.

Developing a shared vision and strategy

A common failing in change programmes noted in the organisational change management literature is the lack of a long-term vision for change.[6] Such a vision should be an anchor for performance improvement objectives, and to formulate specific initiatives (Ostroff 2006). This also involves carefully articulating the mission, to guide the transformation effort and remind staff of that mission as the project progresses.[7]

We found from our interviews that more support can usually be gained for open data implementation in countries where open data was introduced as part of a vision for solving a clearly-defined problem, or tied to a specific political goal or concern on the government's agenda.

In Macedonia, for example, open data was framed as a way to kickstart "innovative potential, job creation and economic value". In Kenya, open data was presented as a way to address youth unemployment and social engagement.

"One of the things we've learned is that we have to make an argument that works [for] the government[…] It's a question of just finding what is the best place to start out as an organisation for a different audience, and how to package it for each audience." **Kenya**

"This agenda will wither and die if it is seen as just an add-on or an additional burden for people. I think we need to make it fundamentally relevant to what people are doing [...] It seems to me that the only ways we develop are by requiring departments to use their own open data, to consume their own open data, otherwise there's no incentive to make it any better […]" **UK (Cabinet Office)**

Sometimes, what might begin as a short-term project with a specific vision can evolve into a longer-term vision with broader impact. This vision may also adapt as the problems and goals

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6   Page, J., Pearson, J., Jurgeit, B., & Kidson, M. (2012) *Transforming Whitehall departments*, Institute for Government; Ostroff, F. (2006) *Change management in government*, Harvard Business Review, 84(5) pp. 141-7;Fernandez, S., Rainey, H.G. (2006) *Managing successful organisational change in the public sector*, Public Administration Review, March/April, 168-176.

7   Ibid.

of government change over time, such as a shift of focus from transparency towards economic growth or efficiency, especially if a new administration takes over. The vision underpinning an open data project does not have to be rigid, but it should be meaningful and measurable for different stakeholders engaged in its implementation. The evolution of open data publication by police.uk offers an interesting example of how a vision for open data can evolve over time.

Case study: The evolution of open data within police.uk

"We actually started this journey a long time ago, before the open data movement really got going. Twitter was new, and the Twitter API was available and lots of people were building things off of it. So we thought, 'What if we could do the same with the maps.police. uk data?' If we made this available via an API, people could build great things with it [...]

No one within the organisation was that interested, because at the time the whole open data movement didn't really exist [...] There was quite a lot of interest though from the public, from developers, some newspapers – the Guardian in particular – so, from outside the organisation it was very well received.

Then [after a short while] the Chief Constable in charge of neighbourhood policing came to the team with the task of making more information publicly accessible. Some research had been done about the public's fear of crime, that it was increasing while crime levels were actually decreasing. We started discussions with the deputy Chief Constable about how more release of information about crime could be coordinated across the 43 local forces in England and Wales. We wanted to give people more meaningful information about what crime was happening in their areas, and hopefully combat those fears.

From the beginning, it wasn't just about giving access to open data. At first, back before open data was really a concept, we were thinking in terms of its commercial potential, ways the developer community could build on it. Then it became about giving people meaningful interpretations of that data and educating them on crime. What's the role government should play ultimately? Is it simply about releasing the information for anyone to play with, and build on, or is it about explaining it to the public as well? **The success of police.uk was partly because accessibility for the public, and a vision of how open data would help them, was built in from the beginning – it was part of providing a service, a cornerstone of standard police service***.***"* **UK (police.uk)**

Where there was no clear vision of the problems open data could help us to respond to, and which benefits it might realise, interviewees spoke of facing apathy from within the public sector towards the initiative, and difficulties faced during the publication of open data. Visions that

simply focused on the publication of a certain target number of datasets (seeing open data as an end in itself, rather than a means to an end), quickly ran into difficulties.

"As a presidential mandate obliged the institution to publish five datasets, the Open Data Portal grew exponentially in its number of datasets within six months. But the same mandate didn´t oblige institutions to keep those datasets up-to-date, so a lot of institutions didn´t do it. The challenge now is working with those institutions that have already published once and updating the datasets, knowing that the person in charge of publishing has probably changed, due to the change in presidency last year." **Chile**

Recommendation: Articulate your vision. Start with a vision of the problem open data can help you solve, or the benefits you want to produce. Think further than simply releasing open data. Being able to connect your release of open data to a tangible benefit you'd like to achieve can help people connect to the initiative and understand its value.

Building agreement for change

A common principle across the literature around organisational change management is to '**foster change readiness**': build agreement for a constituency for change as a first step of creating the change movement in an institution (Kelman, 2005). One interesting aspect of the adoption of open data policies in many countries surveyed – and a common factor in public sector reform – is the introduction of a mandate by external political leadership. There may be no time to foster change readiness ahead of the announcement of the open data initiative.

"The presidential election brought a change of government. The new President believed in the importance of opening up data as part of what we call 'government 3.0'. The new policy meant sharing and collaborating on information held by government." **South Korea**

Several officials interviewed in countries including Kenya, Macedonia, the Republic of Korea, Chile and Mexico talked about their open data policies being initiated on instructions from the President or a senior Minister. For some, the impetus for open data change was their country joining or hearing about the Open Government Partnership. Every country interviewed, regardless of whether the idea of open data came from their political leadership, agreed that getting senior level buy-in for the initiative was the first, and most important, step towards establishing an open data initiative in their organisation.

"It's about getting the politicians onside." **Kenya**

"There's a multi-layer approach to open data: you need the political figure who will make

the commitment, the Minister or President, who understands what the concept is and its benefits, and who can give the green light. Then you have the second layer of important people in each institution, who are usually the heads of departments or heads of units, who know what data their institution generates." **Macedonia**

This top-down approach can leave little time to foster change readiness within the wider civil service, ahead of introducing the open data initiative. This is to a great extent simply part of the nature of public sector change, there is often no way to avoid it. But being prepared to combine that senior or political level support for change with outreach across departments can be crucial to the initiative's long-term success. In the literature around organisational change management, several authors including Cameron, Kotter, Armenakis et al[8] state that a key part of preparing for change in institutions is identifying potential barriers to success early on, and designing training or other orientation programmes accordingly to pre-empt resistance.

"There are a lot of people who just don't know what open data is, so if a mandate comes and says you have to open your data and these are the ways you're going to do it, they just don't get it. We think you have to work first on getting everybody or most people understanding what you're talking about, and then maybe come up with a mandate." **Chile**

The most common barriers to change identified by all interviewees were a lack of buy-in or understanding of open data within government departments – in essence, a lack of 'change readiness'.

Recommendation: **Secure support for your open data initiative from both senior/ political leadership and government officials within departments before launch**. Build in mechanisms to educate government officials about open data, and explain its benefits, from the very beginning of your open data initiative. Fostering support for the change ahead of its launch is important for early uptake of the initiative.

Combining top-down and bottom-up approaches to change

Generally, approaches to change can be classified as top-down or planned (either responding to external influences, or to achieve a desired objective), or bottom-up or emergent (dynamic, continuous and arising from existing practice and knowledge).[9] The literature in our organisational

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8   Cameron, E., Green, M. (2004) *Making Sense of Change Management*, Kogan Page Publishers;

Kotter, P. (1995) *Leading change: Why transformation efforts fail*, Harvard Business Review, 73(2), 59-67; Armenakis et. al,

(1999) *Organisational change: A review of theory and research in the 1990s*, Journal of Management, 25(3), 293-315

9   Kelman, S. (2005) *Unleashing change: A study of organisational renewal in government*, Brookings Institution Press;

change management literature review broadly advocates combining both planned and emergent approaches. This can help you to encourage front-line innovation by departments implementing their open data obligations, while sustaining top-down support for the change agenda. Even in the public sector, where change can be driven by external political forces, there can be space during implementation of the change to innovate and adapt.

> *"It can be extremely top-down. The direction and priorities come from Ministers. What we have started getting better at doing is, even when there is that top-down direction on something, trying to reverse-engineer user engagement."* **UK (police.uk)**

Crucially, the team behind police.uk's open data initiative made securing top-down support for the transition a key focus ahead of any public outreach. A Chief Constable leading police.uk was given responsibility for liaising with senior members of the force and convincing them of the initiative's importance. A communications/public relations role complemented this with a focus on the front lines, encouraging individual police forces to provide access to their data, understand any blockers and address any concerns.

Identifying and fostering open data champions within government to grow the initiative from within (**emergent leadership**) and deliver on its promise is essential. Every country interviewed indicated that simply having top-down leadership on open data hadn't been sufficient. Ensuring government departments have enough flexibility or agility to lead from within on implementation of open data, and help shape its development, can be key to long-term sustainability of the agenda.

> *"There's an equilibrium that you need to have, because the political will or the political mandate sometimes might come through a law or a presidential instruction, and that's top-down. But you actually have to be working [with] the people from [all levels of government]. You have to find an equilibrium and I'm working on that."* **Chile**

Recommendation: Combine top-down leadership for your open data initiative with support for individual or frontline champions. While senior buy-in is important to maintain open data as a priority, frontline champions are important to grow the initiative from the bottom up, and drive implementation of your open data vision.

Getting a change team together

Fernandez, S., Rainey, H.G., (2006) *Managing successful organisational change in the public sector*, Public Administration Review, March/April, 168-176.

Assembling a team to administer the government's open data initiative was a common priority within all countries surveyed. The size of that team and extent of its function depended on the role it saw itself playing in the transition to open data. In Chile, for example, the central agency's coordination team was very small, and its functions were separate from those of the individual departments with responsibility for publishing data. The coordination team focused on developing the government's open data policy and building an open data portal.

In the Republic of Korea, there are several teams involved in open data policy. The open data centre has three teams: open data planning, open data utilisation and the open data core/technical team. Their Big Data Centre also deals with open data. Again, each of the teams play a central coordination role and encourage the release of open data by individual departments.

While all of the countries surveyed assembled a task force or team to manage the open data process – developing a policy, building a portal, stimulating reuse of open data – few countries also focused on relationship management within government as part of their 'change team' responsibilities. The organisational change management literature suggests convening a change team, who are responsible for soliciting feedback from within and outside government, monitoring performance and identifying obstacles, and participating in the design or redesign of activities.[10]

The country surveyed that did indicate some focus on relationship management as part of its 'change team' was the UK:

> *"There has been, since the beginning, a transparency and open data team. It hasn't always been structured in exactly the same way, but probably similar functions performed over time. You have a group of people who are relationship managers, and they provide the support to different departments. Each of those people have a portfolio of departments they look after, and they're responsible for making sure those departments are meeting their open data commitments. They're sort of on call to help them out, they attend each department's sector transparency board meetings and so on. Alongside relationship management, the team does things like policy formulation, engagement in the Open Government Partnership (OGP) and separately has technical experts working on data.gov.uk."* **UK (Cabinet Office)**

Recommendation: Ensure the core open data team includes people with responsibility for change management – supporting departments and coordinating feedback – as part of your open data team. Quite often, we think of a 'change team' being set up to deliver open

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10   Kotter, P. (1995) *Leading change: Why transformation efforts fail*, Harvard Business Review, 73(2), 59-67

data objectives: build a portal, release a target number of datasets and stimulate reuse. Change management is an equally important part of the process, and can increase initial buy-in for the initiative, as well as a sense of ownership within departments of their open data efforts.

Part 2
Following launch: harnessing enthusiasm for open data

Maintaining open communication and trust

In the early stages of an open data initiative, generating interest in and enthusiasm for open data among other parts of the public service is essential; as is fostering interest from the private sector and citizens. Encouraging internal participation and consultation can play an important role when making the case for organisational change, mitigating resistance and creating psychological ownership.[11] Nearly every country interviewed mentioned ways in which – as part of their open data initiative – they tried to foster an environment of open communication and trust.

> *"There's a push for civil servants to be more innovative, to reach out of their typical comfort zones and not be people who just sit at their desks, in front of their computers. It's important to get out there, to work out what the current conversation is, work out where the energy is and how people are thinking. Create or identify useful networks of reformers and innovators who can help you advance the agenda."* **UK (Cabinet Office)**

Several initiatives have quickly introduced mechanisms to support dialogue between public sector organisations releasing data, and the wider reuse community. This dialogue can help government departments prioritise data for release based on user demand, respond to feedback about data quality or format issues, and understand how their data is being used. In Chile, what was originally intended as a one-off meeting between government data publishers and members of the wider reuse community is being reconsidered as a regular opportunity to share experiences:

> *"Recently we held a meeting with open data publishers across government institutions, journalists, NGOs and universities so they could explain to government what they were doing with open data and see the potential of this work. Often, governments don't actually get to see what's getting done with data their portals. Afterwards we asked the civil*

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11   Nadler, D. A. (1998) *Champions of change: How CEOs and their companies are mastering the skills of radical change*, Jossey-Bass; Nadler, D.A. et.al (1998) *Navigating change: How CEOs, top teams, and boards steer transformation*, Harvard Business School Press; Johnson, G., Leavitt, W. (2001) *Building on Success: Transforming organisations through an appreciative inquiry*, Public Personnel Management, 30(1), pp. 129 – 136

servants questions like, 'Did you know there were journalists using your data?' and 'Did you know there were students and NGOs who were using your data?' – and they didn't know, they hadn't thought about it.

"[...] It makes the work more rewarding, because they're not just going through a mechanical process, but someone is actually doing something with the data. Now we're trying to make those meetings happen every two months, so the government can continue to see the potential of their release of data as open data." **Chile**

In the UK, a formal voice for the open data user was established by the Cabinet Office in 2012, called the Open Data User Group (ODUG). Comprising members from across the UK open data community, both non-commercial and commercial, ODUG provides advice to the Cabinet Office on funding for open data, undertakes research to build a business case for open data and provides a mechanism for open data users to request and prioritise the release of data by government. A formal request mechanism is one way to establish a line of communication between organisations releasing open data, and those interested in using it.

Case study: The UK Open Data User Group data request process
The request process, launched in October 2012, has accumulated 564 requests for release of datasets as open data, as well as 330 confidential requests.[12] Citizens or businesses making requests set out the data they would like released, the barriers they had experienced accessing this data and what they would do with the data. The Cabinet Office Transparency Team manages initial receipt of the requests, filtering out and responding to requests which are misguided (for example, those that are not requests for a dataset); or outside the scope of the request mechanism (because the data is not held by a publicly funded body). Where the request is for data that is already available as open data, but there are issues accessing it, the transparency team will raise these issues with the data publisher. Issues might include the dataset not being up to date, the link being broken or poor data quality. If there is a request for data that is not available as open data, the transparency team consults with ODUG and departments to understand if it can be released.

Structured mechanisms for dialogue between government and the reuse community, like data user groups and data request processes, can contribute to an environment of trust and open communication. Transparency about these kinds of mechanisms – about decisions made, discussions that take place and genuine opportunities for engagement – will be key to their success.

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12   Data.gov.uk data requests: http://data.gov.uk/data-request, accessed on 2014-12-18

Governments should not stop at creating formal mechanisms, but consider ways to embed a culture of open communication across open data service delivery in general. There is no one-size-fits-all mechanism to capture perspectives and feedback from outside government. As one interviewee observed of the UK data request process,

"Our data request process is probably a great illustration of the fact that government isn't best-placed to identify what data people want. An early request was from a surf report and beach weather website, who wanted data on which days the Ministry of Defence (MoD) would be using beaches for firing practice. Having this information would help them best advise users on safety, planning their trips and would also save the MoD time having to move surfers from the water before beginning practice. We were able to release this data, proving that individuals can make direct approaches to government so we hear their needs as well as what the open data community is interested in." **UK (Cabinet Office)**

Ensuring government policies and services are set up more generally to encourage and receive external feedback is important. In the case of the specific open data initiative from police.uk,

"One challenge for government departments has been the policy barriers that can prevent them from engaging in the different types of conversations going on – through social media, for example. We need to make sure that other departmental policies don't work against them getting the feedback that they need." **UK (police.uk)**

Sometimes a key barrier to encouraging open communication between government and the open data community can be that the community simply doesn't know what government holds. Encouraging public sector organisations to be transparent about their data holdings from the outset of an open data initiative can help engender ongoing trust. Potential collaborators and developers can more readily engage with governments when they have an understanding of the types of data that institutions hold from the outset.

While nearly all of the initiatives examined through interview have considered ways to encourage trust and open communication between the reuse community and public sector organisations, it is less clear whether similar mechanisms have been put in place within the public sector organisation itself, or across departments. In their evaluation of change initiatives in six Australian public sector agencies, Stewart & Kringas[13] found a correlation between the degree of consultation and acceptance of change. Establishing an internal steering committee could

13   Stewart, J., & Kringas, P. (2003) *Change management: Strategy and values in six agencies from the Australian public service*, Public Administration Review, 63(6), pp 675-688

help share information about open data changes, and provide a mechanism for employee feedback.

Every open data initiative surveyed in this paper, with the exception of police.uk, was coordinated by central government departments for implementation by the wider public sector. This coordinating role may make implementing similar mechanisms for internal, cross-departmental feedback difficult. It is unclear from the interviews whether departments coordinating open data initiatives also implemented internal mechanisms for communication. In the UK, there are sector transparency boards for several sectors (health, justice and environment) who provide advice and communicate directly with departments. Other internal mechanisms may simply not have been raised in the interviews, and may warrant further exploration.

Recommendation: Build open communication and mechanisms for feedback into your open data initiative from the outset, **both inside and outside government**. These could be formal mechanisms – like advisory groups, online feedback forms and regular meetings – and informal mechanisms, like social media outreach. Inviting feedback and being open with your department(s) about the transition to open data and how their work practices could be affected can increase the likelihood of open data reuse, employee engagement and satisfaction with the change.

Making change sustainable and finding quick wins

The literature tells us that taking a 'big bang' approach to open data could end badly.[14] Instead, there is general consensus that taking an incremental approach to organisational change around open data – focused on tangible results that can be achieved quickly – is important to long-term success. Every initiative we surveyed demonstrated a focus on quick wins in open data.

For several countries, quick wins involved getting a data portal up and running, with some useful government data sets published on it. Opendata.go.ke, the Kenyan Government open data portal, was proposed, developed and launched by a government task force in less than three months.

> *"What happened was that we went and saw the permanent secretary, [who said the data was there and went to the President, who said] 'OK good, I'll launch it on May 7th' and that was literally six weeks out [...] So we started, and I can tell you we ran like hell."* **Kenya**

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14   Osborne, D., Plastrik, P. (1997) *Banishing Bureaucracy: The five Strategies for Reinventing Government*, Addison Wesley

Quick wins that give structure to an open data initiative and a tangible output can be key to sustaining energy for open data.

"You know the problem with governments in general is that [they] suffer from inertia, and the only way to break inertia is by getting something started. So one of the things that happened is, based on the fact that we launched opendata.go.ke […], the next year we were in campaign mode, and the electoral commission then started publishing data relating to the elections, because now they had an example [to look to]." **Kenya**

One challenge associated with establishing a government data portal is how to maintain momentum. To ensure new datasets continue to be added, existing datasets are updated, quality continues to improve and, ultimately, an active reuse community thrives around it with social, economic and environmental benefit. For several interviewees, setting up an open data portal for central government was very much a quick win, but seen as part of a wider public sector open data strategy, it could equally be described as a big bang.

In contrast, recommendations from police.uk are to "start small":

"Start small, get something out there, prove a minimum viable pilot, get people using it, get the feedback and build momentum from there. My only advice would be start small, do something quick and dirty. You don't need a big team to do it." **UK (police.uk)**

Several countries surveyed who established government wide open data portals early on (a big bang), only to lose momentum, are now focused on improving data quality and ensuring departments continue to publish open data.

"The idea was to get the portal started and to start talking about open data in government, because it was really new – it's still something new – for many public institutions. So that goal was achieved. They wanted an open data portal, they wanted institutions to start to publish, and they did a really good job in getting around 200 institutions publishing in a couple of months. The thing is because they didn't work in culture change, that didn't evolve into a living open data portal. You have a couple of institutions that are doing really good work, and then you have a couple of institutions that only published what was required by law and then stopped." **Chile**

Having a clear plan for quick wins as part of a broader, phased approach to open data is important. Plan ahead – pick your low hanging fruit, and consult your plan on how to climb higher. This incremental approach to quick wins as part of a longer-term strategy has been implemented in Mexico. The Estrategia Digital Nacional, or 'National Digital Strategy' has

created a structured approach to implementing their open data initiative, via Data Squads.

Case study: Mexico's Data Squads

In Mexico, the Office of the President formed a programme called Data Squads to accelerate the roll-out of open data across government. Data squad members deliver intensive training to targeted government departments to rapidly introduce open data principles. In 42 days, the squads successfully opened 100 datasets across 10 federal agencies, demonstrating the power of this intensive approach. The Data Squads are focused on quick wins – selecting achievable targets within agencies that could provide tangible examples of success. The focus now is on making sure the Data Squads programme is sustainable. Currently, National Digital Strategy is considering a 'train the trainer' approach to continue to proliferate Data Squads across government and manage squad member turnover.

Recommendation: Set out some 'quick wins' for your open data initiative, like releasing a certain number of datasets as open data, launching a portal or supporting a pilot use case - **but make sure these are part of a long-term goal for open data**, that each department can align progress with. Linking quick wins to long-term goals can help you maintain momentum for change.

Being agile and responsive

A lean 'agility' approach to government has emerged as a key aspect of public service delivery, particularly in the digital sphere.[15] Being agile means having the space to innovate and adapt. The UK Institute for Government's recent work on reforming Whitehall[16] recommends a hybrid approach to organisational change, which emphasises flexibility and adaptability ('innovation') while retaining a commitment to scale and collaboration across government. Both of these aspects are present in the central government open data initiatives surveyed. They all began with a commitment to scale across government and have tried to facilitate collaboration between and within departments, to progress an open data initiative.[17]

A key challenge for several of the countries surveyed has simply been the size of government. Change takes time, and it is difficult if not impossible to reach every stakeholder in each

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15   Page, J. et. al (2011) *System error: Fixing the flaws in government IT,* Institute for Government

16   Page, J. et. al (2012) *Transforming Whitehall: Leading major change in Whitehall departments*, Institute for Government

17   With the exception of police.uk: www.police.uk, which still incorporated scalability but across police.uk and departments with complementary data assets.

department and agency who has a role to play in an open data initiative.

Where an open data initiative has been coordinated by a central agency (like the Prime Minister or President's office) flexibility is something that, to a certain extent, can only be encouraged of other departments. Central agencies coordinating an initiative for the whole of government may not have a publishing role. The central agency is essentially playing a relationship management role, coaxing departments to release more data and become more agile to maintain a data-user focus, review and iterate often and respond to reuser feedback. This made it difficult to draw specific examples of how a lean, agile approach had assisted with organisational change management to support open data from the interviews. Nonetheless, several interviewees commented on how evolution and adaptation of their plans in response to feedback was important. In Chile, as one interviewee commented,

> *"Plans can change a lot. We've just finished planning for next year, and I know there [are] some things we're planning that may not get done because things change. You have to be able to improvise and come up with other solutions. For example, if the people in charge of publishing data had told me that [the] first meeting we held with them and the reuser community [hadn't worked], we would have to change our approach. Thankfully we have the opposite problem – they want more. We have a strategy of course, but we have to be able to innovate within our own strategy."* **Chile**

Police.uk, being an agency-specific open data initiative, was able to build agility and responsiveness into its service delivery more directly. From the outset, user feedback was a key element of platform development.

> *"There were feedback questionnaires on the website from day one. We used social media, went to town hall meetings [and held] outreach sessions. We couldn't deliver on all demands, but tried to respond to many. Lots of the developments on police.uk were the result of this feedback, like greater accuracy of data and greater granularity. We started incorporating different datasets to add points of interest – like shopping centres, car parks and cinemas – to build up a richer picture of the data. We also started adding more support and advice for people using the data."* **UK (police.uk)**

Recommendation: Do not get locked into one transition plan for open data from the beginning. Be clear on your long-term vision, but be flexible and responsive to the strengths and needs of different departments and teams. Look for examples of best-practice managing the transition to open data and use these to help other departments. Being agile and responsive helps ensure the transition continues to align with any public sector reform and changing technologies.

Part 3
Embedding open data into normal government practice

It is difficult to sustain the same level of energy and enthusiasm for any policy change, let alone open data, as time passes. Eventually, the open data initiative has to become a part of normal government practice. Few countries are at this stage yet with open data, because open data is relatively new everywhere. The literature review findings indicate that there are several elements that could support long-term sustainability of an open data initiative and broader organisational change movement, including:

- consolidating change over time, institution by institution; and
- building on ongoing learning and reflection.

From the interviews, we found considerable support for these concepts, but due to the relative 'newness' of open data, few examples of these being put into practice. There are high levels of support for rolling out ongoing education and training programmes for civil servants in order to broaden the support base for open data. Learning approaches that involve demonstrations and crowd-sourcing practical examples of use of open data appear to be most effective.

Making change permanent

There are various ways of consolidating organisational change, and reducing cultural barriers. The Organisation for Economic Cooperation and Development (OECD) has suggested highlighting the economic value-add of open data, crowdsourcing the experience of civil servants and local governments working with open data at the frontline, and building new capabilities that aid implementation of open data.[18] Another recommended approach is to facilitate exchange visits or short-term secondments by staff to high-performing institutions already using open data, to promote learning and overcome resistance.[19]

Several interviewees emphasised the importance of consolidating quick wins to prove the open

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18   Ubaldi, B. (2013) *Open government data: Towards empirical analysis of open government data initiative*, OECD Working Papers on Public Governance, No. 22, OECD Publishing; Yui, C., Fink, S. (2013) *Smaller, Better, Faster, Stronger: Remaking government for the digital age*, Policy Exchange

19   Ostroff, F. (2006) *Change management in government*, Harvard Business Review, 84(5), pp.141-147

data concept and foster long-term support. For example, police.uk leveraged the success of their earlier maps.police.uk open data project to collect feedback and make the case for scaling up activities:

"It was hugely important to have a quick win [maps.police.uk open data project]. We built data.police.uk, [about] three and a half, maybe even four years after the launch of the original API. And you know, people had built applications based on it, people had built websites using it, we had people building businesses around it and selling on the data. So, when it came to [making] the decision to rebrand all of that as data.police.uk, and [putting] more time and resources into it, we had a huge amount of evidence that it was a good idea from a policy point of view, but also that it was useful to people. People were using it, and there was going to be a lot of uptake for it." **UK (police.uk)**

Ensuring quick wins are consolidated and built on as part of a long-term open data strategy is one of the recommendations reached in Part 1 of this paper. This consolidation of quick wins can help win support, scale-up activities and advance permanent organisational change.[20]

Occasionally, however, the deeper cultural change aspects are overlooked in the course of pursuing quick wins or following the black-letter law. Failing to deal with cultural change can compromise the overall quality and sustainability of the open data initiative in the long-term.

All of the initiatives surveyed are still in the emergent phase, and grappling with how to begin to embed long-term sustainable open data practice. As a result, there is no consensus regarding the most effective way of consolidating change. The literature, however, does offer some recommendations regarding capacity building and offering incentives and rewards to staff based on innovation and impact. These could be topics for further exploration as open data intitatives evolve.

Learning from success stories

An ongoing challenge when seeking to consolidate change and scale up an initiative can be to spread understanding and support to diverse ministries and institutions. The literature suggests that linking to stories of impact and success is an important part of longer-term consolidation of change efforts.[21] Stories of impact and success can flow from fostering ongoing communication with the reuse community and other areas of government.

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20   Colville, I. et al (1993) *Developing and understanding cultural change in HM Customs and Excise*, Public Administration, 71(4) pp.549 - 565. Colville, I. et al (1993) found that a series of small, continuing efforts at making improvements within HM Customs & Excise was an effective at focusing attention on the need to solve bigger problems.

21   Kotter, J.P. (1996) *Leading change*, Harvard Business School Press.

In Macedonia, for example, the aim is to develop 10-15 applications to showcase and sell the value of open data to other institutions. Realising there is a gap currently, Macedonia is collaborating with the World Bank to develop a formula to help estimate open data impact for different institutions and sectors. Collecting real-life examples of the impacts of open data continues to be a challenge.

> *"There need to be real use-cases and actual examples: how there was an NGO or a company that was able to access data, build a service on top of it and make money out of it. We are missing real, simple examples of good use cases."* **Estonia**

Both interviewees and the literature suggest that in linking to stories of impact and success, it is important to make a contextualised business case ("institution by institution"), and make it often. This business case should be adapted for each different department or institution so it makes sense in terms of their overall vision, capacity and existing business processes. The open data story will be different for each country and public sector culture.

Recommendation: Seek out and foster stories of the impact of open data to help illustrate its value for government implementers. Adjust your impact narrative or 'business case' for different departments, so it makes sense in terms of their overall vision, capacity and existing processes.

Maintaining the political will to support open data

During the consolidation phase, one barrier faced by many countries is sustaining the political will to keep open data a priority. Some authors suggest taking advantage of new election mandates, external influences and pressure and citizen or user demand.[22] Our interviews suggest having a political window is important not just during launch of an open data initiative, but also to continuing the change programme. Estonia, Chile, South Korea, Macedonia and the UK all reported that the Open Government Partnership has been a helpful tool for holding the focus on open data.

That said, international commitments alone may not be sufficient to lock in change. While Kenya is a part of the Open Government Partnership, political interest in open data at the national level is currently waning. Following national elections and a change of administration, the open data community has had to start again to win over the new government and entrench more internal capacity for open data capacity.

22   Abramson, M., Lawrence, P. (2001) *The Challenge of transforming organisations: lessons learned about revitalising organisations*, Rowman & Littlefield

Tapping into external sources of support from within civil society, media and the business community to maintain momentum and political will is another tactic suggested by the literature.[23] Some countries that were interviewed seemed to be having more success with this approach than others (e.g. Chile and the UK). In Chile, for example, they are reaching out to civil society and regional governments to create enthusiasm for scaling-up open data efforts, through hosting an open data regional meeting attracting 800 participants and hackathons with civil society organisation partners. This approach may not work for every country. Chile, for instance, has a strong civil society with a long history of working on transparency and accountability. Countries without such an established open data community, high internet connectivity, or a history of state-civil society engagement on transparency would potentially find it more difficult.

Building political will and tapping into external support may be important, but not sufficient, to institutionalise open data change. It requires proactive, as opposed to reactive, supply of open government data. As one interviewee from Estonia put it:

"The most important part is that it's a law now, so you have to have a very good excuse if you haven't put the data up there. The problem in Estonia is that the market doesn't try our open data initiatives, so there is no market demand for open data. We treat this as a problem, we understand that not all of the roads in Estonia are widely used, but we need roads everywhere. Open data is the same, even though it's not widely used. It has to be there, because you never know when somebody wants to use that data [...] We don't have a problem with technical knowledge – there's no question of technical capacity. But if there is no market demand then [civil servants] start asking why [open data is] needed." **Estonia**

Recommendation: Foster external support within industry, civil society and academia to drive continued demand for open data. External support can help to maintain political will to invest in open data and be a source of ongoing learning and dialogue.

Encouraging ongoing learning

The literature on cultural change emphasises readiness to reflect, admit mistakes and make changes quickly. This goes hand-in-hand with ongoing monitoring of progress against success metrics to evaluate errors. Several interviewees also emphasised the importance of "learning by doing", and being prepared to admit mistakes and adapt plans as necessary. As one official from the UK explained:

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23   Cabinet Office (2012) *Open Data: Unleashing the potential*, Cabinet Office

"I suppose you just learn as you go along about what goes well and what doesn't go well. As opposed to having a plan that you can adapt and amend, you just get a sense of what works." **UK (Cabinet Office)**

Another strong theme emerging from the interviews is the importance of reflection throughout the process of design and implementation. In the race to launch open data portals when trying to secure a quick win, or in the face of strong external pressure (as discussed in Part 2), often not enough time or consideration is put into learning or capacity building around open data. Realising that a lack of basic understanding of open data potentially slows down progress, several countries are now reverse-engineering organisational learning programmes for civil servants.

Various approaches to ongoing learning are being explored within the countries surveyed. These include hosting regular presentations and workshops with institutions implementing open data, journalists, NGOs and university ICT or innovation departments to share experiences and challenges of working with open data. Along with employing the similar idea of a data literacy camp, the Kenyan Government is also employing a more direct approach, talking through concerns over open data amongst government officials and offering reassurances.

Recommendation: Introduce opportunities for civil servants to take part in ongoing learning about open data. This could be through open data training, secondments to 'best practice' teams working with open data or regular workshops. This will help you continue to improve and expand the reach of your open data initiative.

Evaluating open data outcomes

A key departure from the literature in countries surveyed is the lack of focus on monitoring and evaluation. Given the relatively early stage of most open data initiatives surveyed, we encountered few references to how leaders are monitoring and measuring their success. This could be a reflection of how the open data initiative was launched. As was the case in Kenya and Chile, open data initiatives are often launched rapidly in response to top-down pressure, without time to develop a detailed strategy for implementation that include defined success metrics, and a plan for monitoring and evaluation. In other cases, open data initiatives unfold in an organic or opportunistic fashion. In these situations, little attention is sometimes paid at the design stage to defining metrics to measure wider cultural change.

The Open Data Research Network is beginning to think more about defining metrics to measure progress and evaluate initiatives, both in terms of cultural change and external impacts on

society.[24] More work needs to be done in terms of action learning and evaluation of open data initiatives – including organisational aspects – to understand how change happens. It is too early to say whether using 'blunt levers' such as introducing domestic legislation will have a trickle-down effect on organisational cultural change. Qualitative research such as surveying civil servants, for example, could help to track how attitudes and behaviour evolve over time in response to open data.

Recommendation: Build in metrics to regularly evaluate your open data activities. This will help you to measure progress, benchmark success and identify areas for improvement.

Conclusion

Government open data initiatives – whether cross-departmental or within a department – will only work well if the government can transition easily to publishing and using open data.

Integrating organisational change management into an initiative from the outset can help embed a sustainable open data culture. It can also help to maximise the potential impacts of open data for economic growth, improved policy-making and social and environmental benefit.

The public sector is large, and open data is generally cross-departmental, coordinated by one central agency, with a high degree of IT involvement. This means that government transition to using and producing open data will not be an incremental, step-by-step process, but more multifaceted.

The interrelated recommendations set out in this paper could be therefore be applied in different combinations and at different times to help bring about lasting change. These range from articulating a vision for how open data can solve problems, finding quick wins and securing high-level support to engaging grassroots champions, encouraging feedback and being flexible and responsive to the needs of different departments.

This paper is the starting point for a deeper exploration of how change happens in government to support open data. Over the next 12-18 months, we will look to build on the themes and scope of this paper, through the forthcoming International Leaders Network and other global forums.

There are still areas to be further explored around organisational change management to

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24   See www.opendataresearch.org for details of research projects on these topics.

support open data. For example, making sure that hiring and organisational structure practices and policies do not stop change from happening was one of the 10 common principles for change management derived from the literature, but was not raised in any of the interviews. This could be perhaps because this aspect of change management has not been acted on, or because the open data initiatives are still too relatively new. As a result, no recommendations on human resources and organisational structure are made in this paper.

The next edition of this paper might also explore in greater detail how organisational change guidance might differ for a central agency coordinating open data policy across government, as compared with a headline initiative from an individual department. The ODI will continue to explore ways to build on this first paper.

About the Open Data Institute and the Partnership for Open Data

This paper is part of a series produced by the Open Data Institute, as part of the Partnership for Open Data (POD), funded by the World Bank.

What is open data?

Open data is data that is made available by governments, businesses and individuals for anyone to access, use and share.

What is the Open Data Institute?

The Open Data Institute (ODI) is an independent, non-profit and non-partisan company based in London, UK. The ODI convenes world-class experts from industry, government and academia to collaborate, incubate, nurture and explore new ideas to promote innovation with open data. It was founded by Sir Tim Berners-Lee and Professor Sir Nigel Shadbolt and offers training, membership, research and strategic advice for organisations looking to explore the possibilities of open data.

In its first two years, the ODI has helped to unlock over US$55m in value through the application of open data. With 24 nodes around the world, the ODI has trained more than 500 people from over 25 countries. In 2014, the ODI trained officials from countries including Botswana, Burkina Faso, Chile, Malaysia, Mexico, Moldova, Kyrgyzstan and the UK on the publication and use of open data.

What is the Partnership for Open Data?

The Open Data Institute has joined Open Knowledge and the World Bank in the Partnership for Open Data (POD), a programme designed to help policy-makers and citizens in developing countries to understand and exploit the benefits of open data. The partnership aims to: support developing countries to plan, execute and run open data initiatives; increase reuse of open data in developing countries; and grow the base of evidence on the impact of open data for development. The initial funding comes from The World Bank's Development Grant Facility (WB DGF).[25]

Under POD, the ODI has carried out open data readiness assessments, strategic advice,

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25   Partnership for Open Data website: http://theodi.org/odp4d

training and technical assistance for low- and middle-income countries across four continents. In 2015, POD will merge with the Open Data for Development (OD4D) network. As part of this new, larger network, the ODI will continue to take a lead in supporting the world's government leaders in implementing open data, and in doing so will continue to publish practical guides and learning materials such as this series of reports.

What do you think?

The ODI will continue to explore ways to build on this paper, and encourages feedback and comments from the open data and global development communities. Get in touch with fiona.smith@theodi.org to share your thoughts.

Appendix 1

The '10 principles for change management were identified through a synthesis of literature on organisational change management. They provide a starting point for examining change management in the context of open data. Based on these principles and interviews with government officials in seven countries, we came up with our own recommendations for managing organisational change to support open data. The common principles were:

1. Build agreement for change
The literature review seeks to secure broad agreement on the need to change from the status quo position, which Kelman refers to as building a "constituency for change."[26] Preparing the organisation to embrace change also involves anticipating potential barriers, such as a lack of will. It may also be important to develop compelling messaging to mitigate resistance.

2. Develop a shared vision and strategy
Articulate a vision that aligns with the original values and ethos of the organisation (such as delivering effective services), and communicate the vision frequently using different mediums. A clear vision provides the anchor for a long-term strategy, which should ideally include specific policy-oriented goals, and incorporate cultural, technical, economic, social, legal, institutional and implementation aspects. Where possible, there should be opportunities for civil service staff to participate in the strategy development process to enhance ownership and support for the transformation initiative.

3. Get a change team together to guide the change process
A change team needs diverse representation from across the agency, including respected long-time civil servants ('insiders') to ensure broad buy-in, solicit feedback, identify issues requiring most urgent attention, and participate in design/re-design activities. Along with an internal change team, convening an external advisory group or seeking ongoing stakeholder engagement – with civil society, the ICT and business communities – may also help to inform design and ensure relevance to society's needs.

4. Combine top-down and bottom-up leadership styles
Strong leadership and commitment from top levels of management is needed to drive the

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26   Kelman, S. (2005) *Unleashing change: A study of organisational renewal in government*, Brookings Institution Press

vision, and set the change process in motion. Top-down leadership should be combined with an emergent style which harnesses bottom-up knowledge and expertise, and taps into 'pro-change' forces.

5. Make change sustainable, and find quick wins

To sustain support for the transformation, plan for tangible results that can be achieved quickly and early. Demonstrate the benefits of open data through pilot projects, phased roll-out, or learning exchanges between city councils and local government branches.

6. Human resources and structure are enablers, not barriers, for supporting transformation

Modify structures, policies and incentives regarding hiring, job titles, rewards and skill sets to align with the needs of open data. Provide incentives for behavioural change and reward employees based on expertise, leadership, increased responsibility, their contribution to the mission and innovation. To increase motivation, give staff explicit permission to innovate, and empower individual agencies to develop and test their own solutions.

7. Maintain open communication and trust

Create an environment which supports two-way communication (via internal and external channels), so that critics and supporters have equal voice. Provide ongoing opportunities for participation and consultation so that employees understand the objectives of the initiative, and can make a serious contribution to the programme.

8. Become a 'learning organisation'

Collect data to track the progress and commitment to change within the public sector agency. Evaluate activities and programmes for continuous learning ("learning by doing"), and demonstrate a readiness to admit mistakes, including making admissions to the public. Iterate and make changes quickly ("fail fast, fail cheaply"), while continually reviewing success metrics for relevancy.

9. Be agile and responsive

Embrace experimentation and innovation through rapid design and piloting before scaling-up (especially where new technology is involved). Place 'data users' at the core of any project design to ensure what is delivered meets their needs. Adjust project design and transition plans based on regular user-testing and reviews.

10. Monitor long-term change

Crowdsource stories from frontline users in different contexts to inspire the vision for how this change can bring benefits – to service delivery, for example – to find new solutions. Depending on the context, tap into external sources of support, such as citizen or business demands, or "political windows", to sustain enduring support beyond central government election cycles.

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