

**Open Data and Data Literacy Roundtable Meeting**  
**Conference Room 2, Victoria Quay, Edinburgh, 26 April**  
**2019**

**Minutes of meeting**

<b>Present</b>	<b>Organisation</b>
Rucha Amin	Scottish Government
Coryn Barclay	Fife Council
Nick Bland	Scottish Government
Gemma Cassells	University of Edinburgh
Nick Cassidy	Improvement Service
Liam Cavin	Scottish Government
Ross Clark	Scottish Government
Roger Halliday (chair)	Scottish Government
Angus Hardie	Scottish Community Alliance
Albert King	Scottish Government
Ewan Klein	University of Edinburgh
Allan Lloyds	Product Forge
Cédric Lombion	Open Knowledge International
Jack Lord	Open Data Services
Martin Macfie	Scottish Government
Andrew McHugh	University of Glasgow
Carmelle Morrison	PricewaterhouseCoopers
Lucy Parker	Scottish Government
Dash Peruvamba	PricewaterhouseCoopers
Esther Roughsedge	National Records of Scotland
Alex Stobart	Mydex CIC
Noel Thomson	SQA
Simon Tricker	UrbanTide
Ian Watt	ODI - Code the City
Niamh Webster	Scottish Government
Douglas Young	Scottish Cities Alliance

## **1. Introduction and purpose of the round table meeting, Roger Halliday, Chief Statistician & Data Officer, Scottish Government**

- Roger introduced the meeting and asked each attendee to introduce themselves and state how they can input into shaping how Scotland's data can be more discoverable and useable
- Roger explained that he was looking for ideas that help deliver on Scotland's Open Government Action Plan commitments, to help take ambitions for open data forward in an agreed way that no one organisation is going to be able to deliver alone.
- Roger explained that making data open is required to improve the transparency of and trust in organisations. This needs to be coupled with easier access to and skills to use data required for activists to create change. This will better help address the challenges which lie ahead in the future. Scotland has a lot of research capability, particularly in the universities sector to drive innovation
- The Scottish Government published its data vision for Scotland in 2014 and an Open Data Strategy in 2015 that asked all public sector organisations to consider what data they can make open in line with open data standards and to develop open data publishing plans. Roger noted that whilst there have been numerous data innovations and developments (both technological and legal) which have saved time, money and lives, the overall vision for open data is still to be achieved. One aspect of this is that public bodies progress in releasing open data hasn't fulfilled the ambition and may benefit from clearer and more focussed strategic targets.

## **2. Note of pitches on challenges & opportunities in addressing open data and data literacy – Invited speakers**

### **2.1 Angus Hardie, Director, Scottish Community Alliance**

Scottish Community Alliance is a loose network of community organisations. Angus canvassed members of his network on their views on their knowledge of open data. They generally did not do not know about either open data or the Open Government Partnership. He views this as something which needs to be addressed, as community organisations are being expected to take on more tasks, but aren't able to access and use evidence and / or data.

Community organisations cover a diverse range of topics, and therefore have a diverse range of data needs. But most critically, many do not know what data sources exist, or how to make use of them and people are often overwhelmed with an overload of information. For open data to be usable to this community, it needs to be more discoverable and accessible.

## **2.2 Coryn Barclay, Research Consultant, Fife Council**

Coryn stated that levels of data literacy in local government are relatively low, with many people relying on data specialists to extract and interpret data for them. There is real skill required in consuming data for knowledge, thinking critically about the data, and supporting others to interpret and use data through the development of compelling narrative that tells the story from the numbers.

While there are sometimes issues with access to the data, there are often issues with the utility of the data itself. It is not just a case of liberating the data, but also with how easy it is to understand.

Often the data tools that are available are built by analysts, for analysts, rather than opening this up to a wider set of users to inform decisions in their day to day work in developing data literacy in the workforce.

Action is needed at a number of levels:

- Investing in National Occupational Standards for Researchers – as produced by Skills for Justice for Laria – which set out the core competencies that researchers need to develop. This includes development of communication skills to support people to speak to non-analysts.
- Building capacity for people to use data more effectively within organisations through the development of dashboards and tools, and supporting them to share best practice around use of data
- Recognising the importance and value of data literacy in leadership development. This should build the capacity of managers to think critically about data, to better understand service needs and delivery

## **2.3 Nick Cassidy, Research Officer, Improvement Service**

Nick noted that the Improvement Service find that the main challenge is in understanding what the blockages are to expanding the availability of open data, and what can be done to help overcome that. They feel it is partly a technical challenge, but largely it is about organisational attitudes and institutionalised resistance to sharing data. From experience, most individuals would like to make more of the data

that their organisation holds and collects available in an open format, but due to lack of investment or just because it's not seen as a priority this doesn't happen. This is true of the Improvement Service as well to some extent. Some organisations are definitely far ahead in terms of overcoming these issues, and so the Improvement Service would be really interested in understanding how this has been done and what we, the Scottish Government and others can do to support that.

#### **2.4 Allan Lloyds, Founder & Managing Director, Product Forge**

Allan explained that Product Forge are an organisation that run data hackathons. These are learning events that involve exploratory work on a diverse range of data sources. They often find that much of what is published is not useful, and the data sources they need aren't easily accessible. There are often commercial sensitivities with organisations often asking for fees for users who request data, in addition to a resistance to publishing using open licenses. Institutions often say no to releasing data as a default answer. There is a lack of synthetic data available.

#### **2.5 Ewan Klein, Professor of Language Technology at University of Edinburgh**

Ewan stated that data literacy is about both the skills required to “read” and “write” data. The skill of “reading” data involves the ability to interpret data and understand the story that the data is telling you. The skill of “writing” data concerns the ability to collect, assemble and store data. By analogy, encouraging people to collect their own data can give them much better understanding of what data means — how it is connected to the world that we inhabit. This can be part of community-level initiatives on data gathering. Initiatives like these can only be successful when the data helps to delineate something that people really care about; where collecting the data is step towards better evidence, and where better evidence can — possibly — be used to influence policy. This is an important link to another topic, namely how to develop a thriving data economy

Even where there are excellent mechanisms for collecting and publishing open data, this tends to be on a ‘broadcast’ model: one trusted source disseminating to (hopefully) a mass audience. Ewan stated that we lack good models and mechanisms for co-production of open data: that is, for scenarios where citizen-sourced data sources are combined with ‘official’ sources.

#### **2.6 Eddy Borges Rey, Senior Lecturer, Communications, Media and Culture, University of Stirling (covered by Ewan Klein, in Eddy's absence)**

Eddy is the co-director of the research network Life in Data (which includes a wide variety of stakeholders in Scotland) that seeks to explore ways of embedding data literacy to empower citizens and communities and in policy making and curriculum

design. He believes that being part of Scotland's Open Government Partnership Steering Groups is the right avenue to action these ideas and to enhance overall data literacy in Scotland. This way, citizens will be not only able to access open data freely available, but to make better sense of it.

Eddy has previously worked as a journalist and is aware of the risks of frequent misrepresentations associated with a lack of engagement with context with data.

In terms of challenges around the Life in Data Project, the first issue that emerged during the early stages of the project was the lack of a shared definition of data literacy.

There were two interesting dimensions to consider:

- a) There was a **functional data literacy** (more instrumental data analysis skills directed to perform elementary data visualisation of spreadsheets, for example) but more importantly, there was a **critical data literacy**, one that helped citizens to understand what happened with their personal data on social media, for instance.
- b) Another dimension was concerned with what was the appropriate level of data literacy required for citizens to have. Similarly, we saw elementary competencies and then advance data sciences skills.

Data literacy is not the same as numeracy. It includes skills needed to find data, to evaluate the quality of sources of information, and assess whether information is appropriate for the task you are trying to achieve

### **3. Open data commitments within Scottish Government Open Government Action Plan 2018-2020, Martin Macfie, Open Data Team, Scottish Government**

Martin gave a presentation on the context and ambitions for Open Data and [Scotland's Open Government Action Plan](#)

As part of this presentation Martin outlined what is meant by open government. An open government is one that values openness, accountability, transparency and involves people. Martin then gave a background to Scotland's Open Government Action Plan which was published in early 2019 and the steps involved with civil society to achieve this. He explained what is meant by open data, and the benefits of open data. Martin then outlined Open Government Action Plan commitments around the using and sharing of data and information. Many of these involve opening up Scotland's data and making data more easily useable and discoverable.

## 4. Discussion on what success would look like in 2022

Attendees spoke in groups in 2 or 3 to discuss what they view their ambitions around improving open data and data literacy are for the future. They also discussed what the barriers are to achieving these ambitions and what tasks should be carried out to overcome these barriers.

Below is a summary of the view that people raised in this discussion

### 4.1 Ambitions

- **Data should be made open by default and the benefits of open data need to be better explained.** Leaders across Scotland can see the value of organising and sharing their data for opening up and invest in getting this done. Data should be treated as a common resource with associated infrastructure and that organisations should not be afraid of sharing their data. This should be accompanied by clear processes and an operational strategy for opening up data – detailing who is responsible, how it will be opened up and where it will be released. This should be extended to procurement tenders. There could also be the possibility of having a data request service
- **Have local data that are of benefit to all organisations.** Data are used by and for communities to hold governments to account and design new services. In this way, it will be possible to build a sense of ownership of data in communities.
- **Better support for non-expert data users** –such as easing data through searches and making mapping easier for people who do not have the software/expertise for people to understand local areas. Improve data literacy in schools

### 4.2 Barriers

- **Knowing what the public wants**, as demand for data service needs is always changing
- **Service/website design is currently often produced by data experts and used by data experts**
- **The lack of buy in from many public sector organisations.** Action plans and strategies acted upon by enthusiasts but easily ignored as there open data is not currently mandated by law. Attendees were unclear how datasets are selected to be made open, and questioned if there was a specific operational strategy in doing this. There is often a lack of capacity in organisations to open up data, and some concerns about the involvement of

GDPR. Access to data embedded in how organisation generate and use data in day to day work. Business models based on closed data.

- **From the private sector, a survey of larger clients revealed that many want to share data**, but aren't sure about the ethical and privacy implications of this. Many of them don't know what to do with their data.

#### 4.3 Tasks

- **Mandating open data by law** would sharpen attention, and deliver results. Define (in law) "open data" with rules of processing and "restriction" in the same way "statistical" information is defined. This would reduce and remove perceived legal risk around open data. Promote value of open data to offset perception of risk. An example could be that every public sector organisation should be mandated by Scottish Government to collect, and prepare a data catalogue of what datasets that they own. Publish descriptions of what is held by each public sector organisation in Scotland. As part of this, open data friendly business models should be suggested. Automation of publication process would help. Should identification of open data be incorporated in annual reviews of data holdings for GDPR? Produce public synthetic data
- **Service and website design is required to focus strongly on novice users.** We would hope to be in a position in 2 to 3 years where we have much better support for non-expert users of data. As part of this, it is important to understand types of users and to target data literacy. We need to work to ensure that people know where information can be accessed and interpreted. As part of this, we need to build capacity and data literacy, through the production of training guides, events and widely accessible tools. Interfaces for open data portals should be made easier for people with low levels of data literacy. This should start with better findability through search engines, as this is where most users start, experts and non-experts alike Ensuring that data comes with better metadata would enable better searches Building a basic set of data that organisations are expected as produce as minimum based on user need and it should be made much easier for users to find data for non-standard geographies (even just best-fit aggregations of data zones)
- **Communicating case studies of where open data have benefited the lives of people, made efficiencies to public services and provided economic value.** This would show the value of data in making decisions. Build our understanding of how communities make use of data to help inform their improvements and their ambitions. Identify communities and organisations to partner and champion data.

## **5. Notes from Breakout groups**

### **5.1 Breakout group 1 - Improving Data Literacy**

#### **5.1.1 Examples of good practice in improving data literacy**

Below is a list of examples of good practice which were discussed at the breakout group

- Price Waterhouse Coopers design data interfaces tailored to the needs of those that will actually use them and achieve this by carrying out usability testing
- Fellowship model – letting people learn, with support, in their community
- Talks at public events (e.g. NRS/SG)
- Video user guides (e.g. KnowFife)
- ‘Making Sense’ – focused interventions.

School of Data – Open Knowledge International

#### **5.1.2 How do we help people to find the information they need to improve data literacy**

- Search engine optimisation – everyone starts with google
- Build data literacy into school curriculums if we want this at societal level

#### **5.1.3 Key delivery partners and how we work together to address the issues of data literacy**

- Scottish Community Alliance say they don't know about open data or open government. This knowledge gap is a good place to start with regards to connecting with potential users of data who are engaged and knowledgeable on their topics of interest, but who lack data literacy skills. We should work with Scottish Community Alliance to connect to community groups, to promote our data collections and tools, deliver training, and identify the pain points that novice users encounter when trying to find and use information.
- There is the opportunity to work with schools and universities

- Price Waterhouse Coopers have extensive experience in working with private sector clients, who often lack the skills and experience to make good use of their data. They are prepared to share use cases and user profiles identified through this work, to help us better understand novice users.
- Open Knowledge International have worked on upskilling people in data use through their 'School of Data'. They are prepared to share their experiences of this, which may help us identify approaches that would work in Scotland.
- There could be the opportunity to work in conjunction with the Datalab to address the issues of data literacy

#### 5.1.4 What we could and what we should do? What is our priority?

- A priority is the use to **gather cases of how data are used and where people are struggling to use data to shape and prioritise effort in where we communicate and publish open data**. To have a better understanding of use cases, it is important to have a two way conversation with users. Users need and expect intuitive design. Development of tools and interfaces needs to be more appropriate for a better range of users. This could be done through collaborating on profiles and focus groups to develop intuitive user design and develop use cases going forward. Take some of the potential use cases – build it for them, and use to promote/publicise. It is important to target those people that have the lowest data skills. Should trial a variety of approaches, and then focus on those that work.
- The Open Knowledge International have a **School of Data**, which produces a pipeline of **data champions** (although if organisation based, they often get promoted and leave. What about community data champions?) School of Data approach. Price Waterhouse Coopers run a degree programme to train data specialists
- **It would be helpful to identify a few groups to pilot community use of data**. Need to define outcomes we're looking for as part of this (identify priority users and generic aims). This could be done in conjunction with the Scottish Community Alliance to identify interest groups who can give us use cases and/or user defined questions?. It would help to identify target groups, for example citizens & community leaders, public sector officials and the private sector. Many community organisations are active on topics of interest, and we need to do more to engage with them. However, reaching out to users with direct contact and support is resource intensive. Whilst pilot projects might be sensible, for this to be done at scale the burden has to be spread

Continue to make use of public events. Engage better with schools and other educators. Video guides would help some users

## **5.2 Breakout Group 2 - Improving the accessibility of Open Data**

There was a wide ranging discussion and a range of views about how to improve accessibility of Open Data. The notes below capture the range of views from the group:

### **5.2.1 How we can collaborate to improve the availability and accessibility of Scottish public sector data?**

- There could be better cataloguing of data and better use of standards, so that open data are more easily discoverable. For better discoverability, there should be better tools and interfaces. There should be better examples of how data are used and best practice in some organisations and support should be connected to user needs. The culture in some organisations can be somewhat risk averse which needs to be overcome. The information governance hurdles to accessing data need to be overcome, and this also applies for synthetic data.
- Publishing basic reference data as URI
- Create communities of practice
- There may be collaborators who can provide support for others. For example, Urban Big Data Centre is able to support publishers in preparing and releasing data
- It's important to have compelling use cases that demonstrate the value of open data for producers and users. So, we could source the 'proofs of value' from here in Scotland and elsewhere. It's also important that we try to follow through on benefits realisation for our activities
- The Edinburgh Living Lab is able to provide some examples

### **5.2.2 How should the Scottish Government and its partners work together to improve the communication of open data to a non-technical audience?**

- We could use Scottish Data Informatics Partnership (SDIP) as a focus for activity where appropriate
- Better define legally what open data is in law or regulation

- Establish communities of practice for publishers of open data
- Help people with accessing open data and improve publication platforms
- We should identify and communicate case studies which clearly outline the impacts and benefits of open data
- Work together to produce synthetic data

### **5.2.3 Examples of good practice in opening up public sector data**

- Some national and subnational governments promoted open data by default. These include the Netherlands, Ukraine and New York
- NASA <https://data.nasa.gov/>
- Copernicus Services Data Hub, CERN open data portal
- There is a need to ensure business models are sustainable at the same time as licensing is simple, enabling. Open data requires investment so this should be reflected in the resources and business models supporting the production and reuse of data – e.g. Chicago
- Geography – OS model

### **5.2.4 Improving the accessibility of open data**

- Have a national data catalogue and have a contact point for queries. Improve the culture around data release (privacy and accountability)
- Better metadata – make data and metadata discoverable using search. Agreeing common data standards
- To improve interpretation and data literacy we need to have accessible tools and interfaces for open data. Best practices on publishing – tools, knowledge, context etc.
- Build up a bank of good examples of where open data have been used to benefit the lives of people and save money – e.g. apps

### **5.2.5 What other types of data do people want to see on a public sector open data platform and how do we prioritise effort?**

- Clarify and define public bodies' what their obligations around open data
- Data audit. Public bodies need to know their own data
- Publishing data that is actually useful. Public bodies are legally required to respond to FoI requests – the data used to respond to regular FoI requests could be something which could be made open, to reduce respondent burden
- Ask community groups who are working in this sector what data they would find useful to be made open. Also ask groups such as Product Forge and Code the City from a more technical perspective. Find out what has worked well from other countries (e.g. open data in Ireland)

## 6. Next steps

Scottish Government colleagues agreed to:

- Look at work up a set of shared ambitions for open data and data literacy, both long term aspirations and achievable medium term ambitions and costs/benefits of meeting those aims. This should be framed by the progress we have made so far. This would be in conjunction with a small number of key partners. This could be then be shared to others.
- Put these worked up proposals to Ministers and secure a clear steer on their ambition.

Once we have that, we should develop:

- A clear delivery plan (that forms part of the wider High Level Delivery Plan for data). This should be owned by both the Scottish Government and its partners and could be communicated through the Data Delivery Group.
- Governance arrangements to support delivery.

There are some short term actions we can take, namely

- We should use community groups and networks to help inform data needs and understand the barriers to data literacy.

- Communities of practice should be established that already demonstrate the value of open data, and what we think should be explored for improving the value of open data. This could be done virtually.