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The Role of Civic Tech Communities in PSI Reuse and Open Data Policies

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Open government, open data, citizens, civil society, civics, civic tech, technology, apps, visualisations, collaboration, innovation, intermediaries, engagement, policy

Executive Summary

This topic report looks into the role of civic tech communities in the reuse of Public Sector Information and open data policies. The report briefly introduces the concepts of Open Government and Open Data and explains why related government programs tend to fall short on delivering the desired impacts when they are approached as merely technical exercises, publishing data into a central portal while neglecting the importance to supporting actual reuse by various stakeholders.

In 2010 the Open Data Study looked into what conditions are needed for Open Government Data programs to become successful, and finds that in both the US and UK, a three-tiered drive was at play. The three groups of actors who were crucial to the programs' success were:

- A top-level mandate;
- An engaged and well-resourced 'middle layer' of skilled government bureaucrats, and
- Civil society, and in particular a small and motivated group of 'civic hackers'.

The Open Data Study further strengthens that assertion, and warns those attempting to mirror the successes of the UK and US OGD programs not to neglect any of these three layers of influence. While it is pretty straight forward analysing and understanding the commitment and readiness of both the top-level and the middle layer, very little is known about the third tier. This report looks more closely at this stakeholder group that is little understood, but often referred to as 'civic hackers' or 'civic tech community'.

In many countries civic tech communities alongside with specialized CSOs have played a pioneering role in agenda setting and the development of respective national OGD programs with a mix of advocacy and the deployment of pilot projects that showcase the usefulness of open data for a government of the 21st Century. Although the importance of the engagement of this stakeholder group is widely recognized their role remain in most cases informal and unofficial.

1 Open Government and Open Government Data

"Open Government" is a term that is used to describes a worldwide trend for governments to become more open, transparent, accountable and efficient. Open Government is a cultural change towards new relationships between governments and citizens, and other stakeholders based on dialogue and collaboration. Open Government policies embrace the use of modern Information and Communications Technologies (ICT) as well as digital information and data as a means to create more meaningful interactions between citizens and governments and build better public services. Access to government hold information and data, also called Public Sector Information (PSI), thus, is a key element of any Open Government policy. Making PSI available following "Open Data Principles"[1] is referred to as Open Government Data (OGD).

OGD is a precondition for any Open Government policy as it builds the basis for:

1. a well-informed public; citizens that understand why decisions are made and how tax money is spent, thus enabling them to effectively engage and actively participate in society.

2. a more transparent and accountable government as a basis to mitigate corruption and rebuild trust in public institutions.

3. better data management and data sharing practices within governments that lead to a more efficient government and save tax money.

4. better, because evidence-based, decision-making within government, that lead to better policies and better public services.

5. the creation of innovations, new products and services built by third parties reusing OGD, leading to the creation of jobs and economic growth.

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[1] Sunlight Foundation (2010). Ten Principles for Opening Up Government Information, retrieved April 2, 2015 from https://sunlightfoundation.com/policy/documents/ten-open-data-principles/

2 When Open Government Data programs fail

Although OGD is a vital part and precondition for any successful Open Government initiative it is also obvious that OGD is not a value in itself. It is only useful if it is actually used. Lessons learned within the international community indicate that OGD programs tend to fail or deliver results that fall way beyond expectations, simply because they were approached as a mere technical exercise making data available in a central data portal. While its good to make PSI available as OGD this will not automatically lead to the desired effects and impacts (as described above). OGD to be useful needs to be used and interpreted, analysed and compared, interlinked and mixed, visualized and explained by intermediaries. OGD programs that don't actively care about supporting reuse by all kinds of stakeholders and new intermediaries tend to have limited success and low to non-impact. We have seen some OGD programs that, although perhaps not officially named failures, have not resulted in anything else than some datasets being published into a data portal as a dead end.

3 New intermediaries

Before the digital age, traditional intermediaries of PSI used to be a relatively small group of experts and specialists in science, specialized consultancy agencies, law firms and the media. Although these experts remain relevant, the rise of the digital age, the increased public access to the Internet and other communication technologies as well as the increased availability of information and data opens a space for new intermediaries. This is a democratisation process of public information and data and holds vast potential to empower citizens to effectively engage in public and civic issues.

However these new intermediaries need new skill-sets, including media literacy, but also code literacy and data literacy. A McKinsey study from 2011 states "demand for deep analytical talent in the United States could be 50 to 60% greater than its projected supply by 2018".[2]

While in some (mainly developed) countries there are small but active groups in civil society that have these skills and are driving the open data agenda in their countries, in many other countries these skills needed to work with data are almost absent in CSOs and the Media. It is therefore that capacity building for these new intermediaries should be key element of any OGD program.

 It should also be noted that this skill-shortage also applies to the public administration: Effective data analysis to inform better policies is not common among public agencies at all levels. Especially local governments are falling behind making efficient use of technology and information and data.

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[2] McKinsey Global Institute (2011). Big data: The next frontier for innovation, competition, and productivity, retrieved April 2, 2015 from
http://www.mckinsey.com/insights/business_technology/big_data_the_next_frontier_for_innovation

4 The three-tiered-approach

To be successful, OGD programs should not be approached as "technical exercises" but require active engagement and collaborations between different stakeholders. Thus OGD is nothing a government can and should do on its own, without active stakeholder engagement.

The Open Data Study[3] (2010) finds that three key groups or 'layers' in society were crucial to the successful implementation of any OGD program:

1. An influential and active civil society provided the 'bottom up' pressure for change through traditional advocacy and by setting up innovative websites demonstrating how OGD could be used.
2. Civil servants and state and federal administrators who saw OGD as a way of improving efficiency provided the 'middle layer'.
3. Finally, high-level political leaders including Heads of States and Ministers provided the third layer.

Or, as observed by Sir Tim Berners-Lee in an interview for the Open Data Study: "it has to start at the top, it has to start in the middle and it has to start at the bottom!" This is now referred to as the "three-tiered-approach".

The Open Data Study finds that in both the US and UK, a three-tiered drive was at play and that all three groups were crucial to the success of the respective OGD programs. The study strengthens that assertion, and warns those attempting to mirror the successes of the UK and US OGD programs not to neglect any of these three layers of influence.

Today there are huge efforts undertaken by governments and international organisations (including World Bank, OECD and UN) to understand which conditions are supportive and which are challenging to the introduction and implementation of OGD programs. The World Bank created a methodology to assess the readiness of a country to implement an OGD initiative, called "Open Data Readiness Assessment" (ODRA)[4]. Interestingly enough this methodology underlines the assertion that, among other factors, an active and engaged civil society is a key factor for the success of OGD programs.

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[3] Transparency & Accountability Initiative (2010). Open Data Study, retrieved April 2, 2015 from http://www.transparency-initiative.org/reports/open-data-study-new-technologies
[4] World Bank (2012). Open Data Readiness Assessment (ODRA), retrieved April 2, 2015 from http://opendatatoolkit.worldbank.org/en/odra.html

5 Civic hackers - understanding the third tier

According to Wikipedia 'Civics' is the study of the great theoretical and practical aspects of citizenship, its rights and duties; the duties of citizens to each other as members of a political body and to the government. Within a given political or ethical tradition, civics refers to educating the citizens. The history of civics dates back to the earliest theories of civics by Confucius in ancient China and Plato in ancient Greece.

Although the word 'hacking' has, in the context of computers, is associated with negative connotations among the general public, among software engineers 'hacking' simply means the experimental development of software and systems to solve particular problems.

'Civic hacking' is therefore understood to mean deploying information technology tools to enrich civic life, or to solve particular problems of a civic nature, such as democratic engagement. Civic hackers might be described as tending away from characteristics associated with other types of more traditional civil society: for example, they might privilege approaching only those civic problems to which they can see an elegant (technical) solution. Although not everybody involved in developing civic technology would perceive him/herself as a 'civic hacker', it is reasonable to refer to them as 'civic tech communities'.

6 Civic technology – examples

Today there are many applications build by 'civic tech communities' that can be referred to as civic technology. These tools and applications might be broadly categorized in three main pillars, although many projects can be hybrid and fall into more than one category:

- **transparency and accountability**, that hold governments to account, by making information and processes transparent; these projects are often used in advocacy and to influence policy and decision making.
- **citizen-government interaction**, that make citizens interaction with governments easier and more meaningful; these projects aim to replace traditional channels and interactions with digital public services that are user centred and provide a better user experience.
- **digital tools for citizens daily life**, that make citizens everyday live a little easier; these projects often address small but important aspects of our daily lives aiming to provide easy-to-use solutions.

It is interesting to see how many of these projects have been started by individuals and volunteers in their spare time. Many of these projects have not received warm welcomes from those government agencies they are corresponding with. In fact some platforms, like "What do they know" or "Fix my street" (both created by the UK based non-for-profit mysociety) have received negative perceptions by civil servants in the first place, perceiving them as something irregular and annoying, and resulting in causing extra work to the public servants. In fact mysociety did not ask the local authorities if they wish to receive mails from citizens with reports on potholes or broken streetlights, as in the case of fixmystreet. It was only years later that public authorities realised that these new tools and services created by third parties outside government can not only make their work easier, but that they could also use the platform to respond to citizens needs in a more direct and timely manner.

But civic tech communities are not only producing useful tools and applications. In fact in many countries they have played an important role as trailblazers and pioneers putting Open Government and Open Data on the political agenda. A common strategy among these diverse groups appears to be a hands-on approach often resulting in an "ask for forgiveness later, rather than ask for permission in the first place" attitude. An example for this approach is scraping the content of official government websites and repurposing the data in more structured, searchable, visualized and user-friendly ways. By doing so, these initiatives often

deliberately violate copyright held by government agencies, in order to make the case that this information should be available for reuse in the first place.

6.1 Transparency and accountability

An early example of civic tech was created by a student called Josh Tauberer, who launched GovTrack.us in 2004, which repurposes publicly available data about key activities of the US Congress and publishes it in an accessible, searchable form.


Govtrack is a parliamentary monitoring website www.govtrack.us

Today parliamentary monitoring websites are used by specialized CSOs around the world to track, explain and contextualize what happens inside parliament, how decisions and legislation is being made, how individual Members of Parliament (MPs) vote and much more. See also the

Topic Reports about parliamentary informatics (ePSIplatform, 2013[5]) and the Global Survey of Parliamentary Monitoring Organizations (NDI, 2012)[6].

Examples from Europe include websites from France, Germany, Poland and Lithuania and most other European Countries.
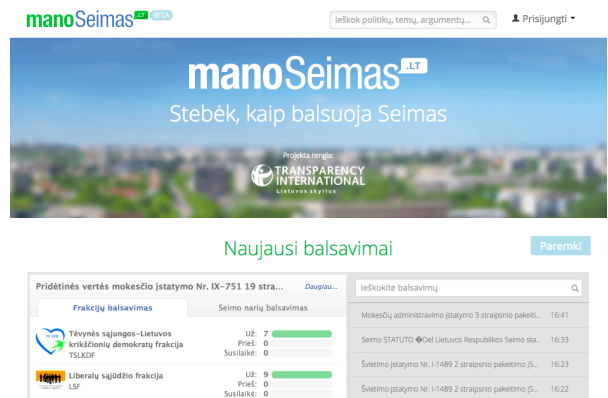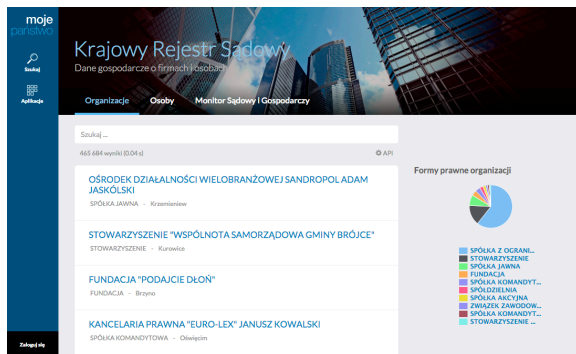
www.nosdeputes.fr |www.offensparlament.de | www.mojepanstwo.pl |www.manoseimas.lt

Another popular focus of civic tech transparency projects is government budget and spending. Aiming to make it easier for the general public to understand how tax money is spend. An early example us "Where does my money go" and "OpenSpending", both developed by the Open Knowledge Foundation.

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[5] ePSIplatform (2013). Parliamentary informatics, retrieved April 2, 2015 from http://www.epsiplatform.eu/content/parliamentary-informatics-what-data-should-be-open-and-how-multi-stakeholder-efforts-can

[6] National Democratic Institute and World Bank Institute (2012). Strengthening Parliamentary Accountability, Citizen Engagement and Access to Information, retrieved April 2, 2015 from

Where does my money go, helps citizens understand how tax money is spend: www.wheredoesmymoneygo.org

Open Spending is a platform that allows anyone to upload, explore, analyse and visualize public budget and spending data. Today the platform features 944 datasets from 73 countries from around the world, more at www.openspending.org
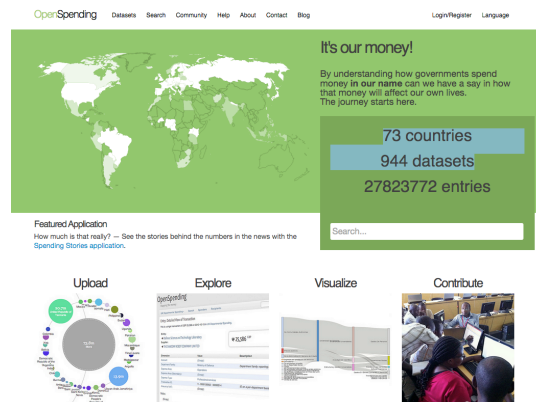

A third very popular civic tech project in the category of transparency and accountability are so called "Freedom of Information request" websites. These projects allow filing specific requests to access government information using the Freedom of Information or "Right to Access Information" legislations of a specific country. One of the first of such projects was developed by mysociety, a not-for-profit social enterprise in the United Kingdom.
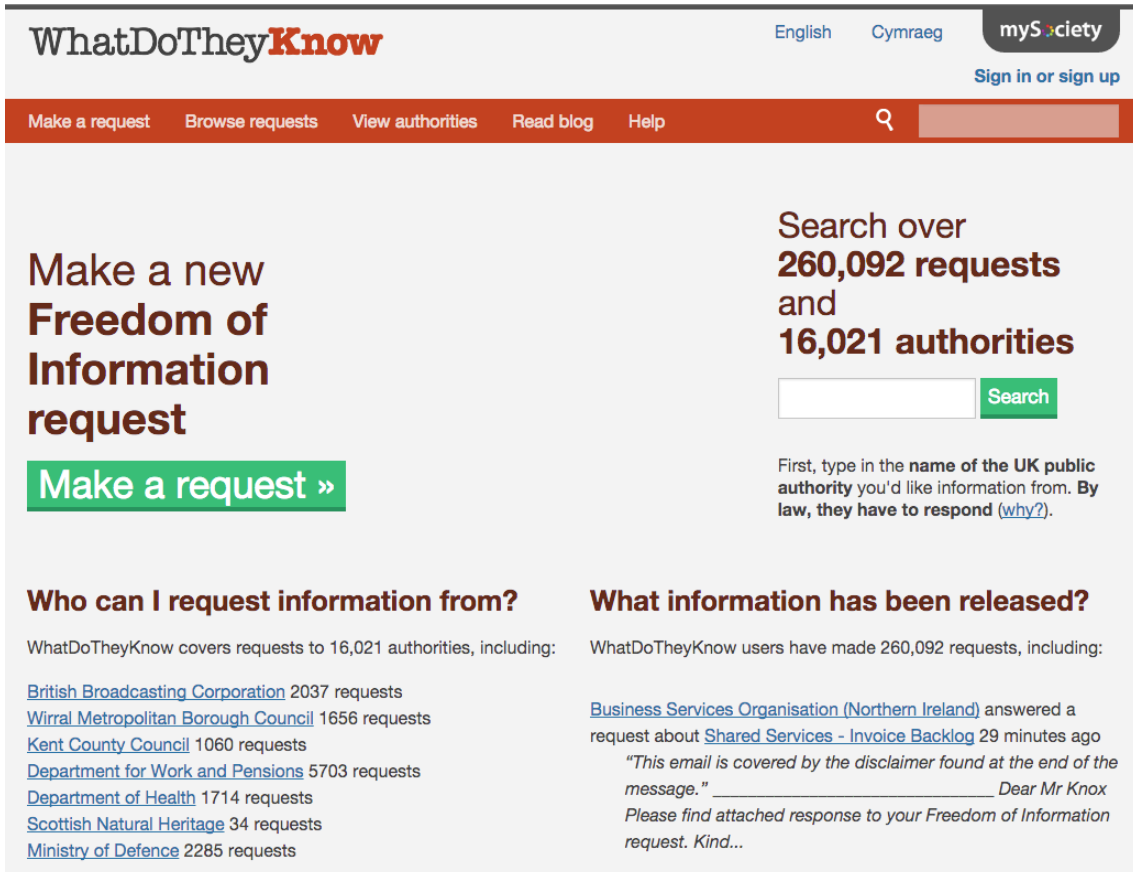
What do they know, allows citizens to request government information making use of their right to access: www.whatdotheyknow.com

The software used to run the platform was later adapted and made available as open source so that it can easily be re-deployed in other countries, called Alaveteli, that helps citizens to make over 200.000 Freedom of Information requests in 18 jurisdictions: www.alaveteli.org
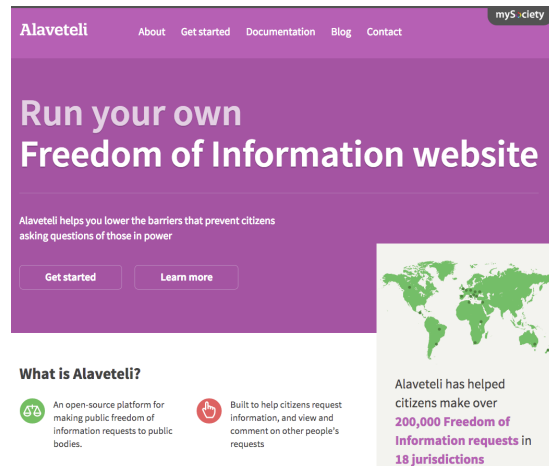

6.2   Citizen - Government interactions

Perhaps the most famous example of civic tech projects that creates new channels and forms

of interactions between citizens and governments is "Fix my Street", developed by mysociety. Every week, thousands of people use it to report potholes, broken streetlights, and other problems in their local area to the local authorities in charge.
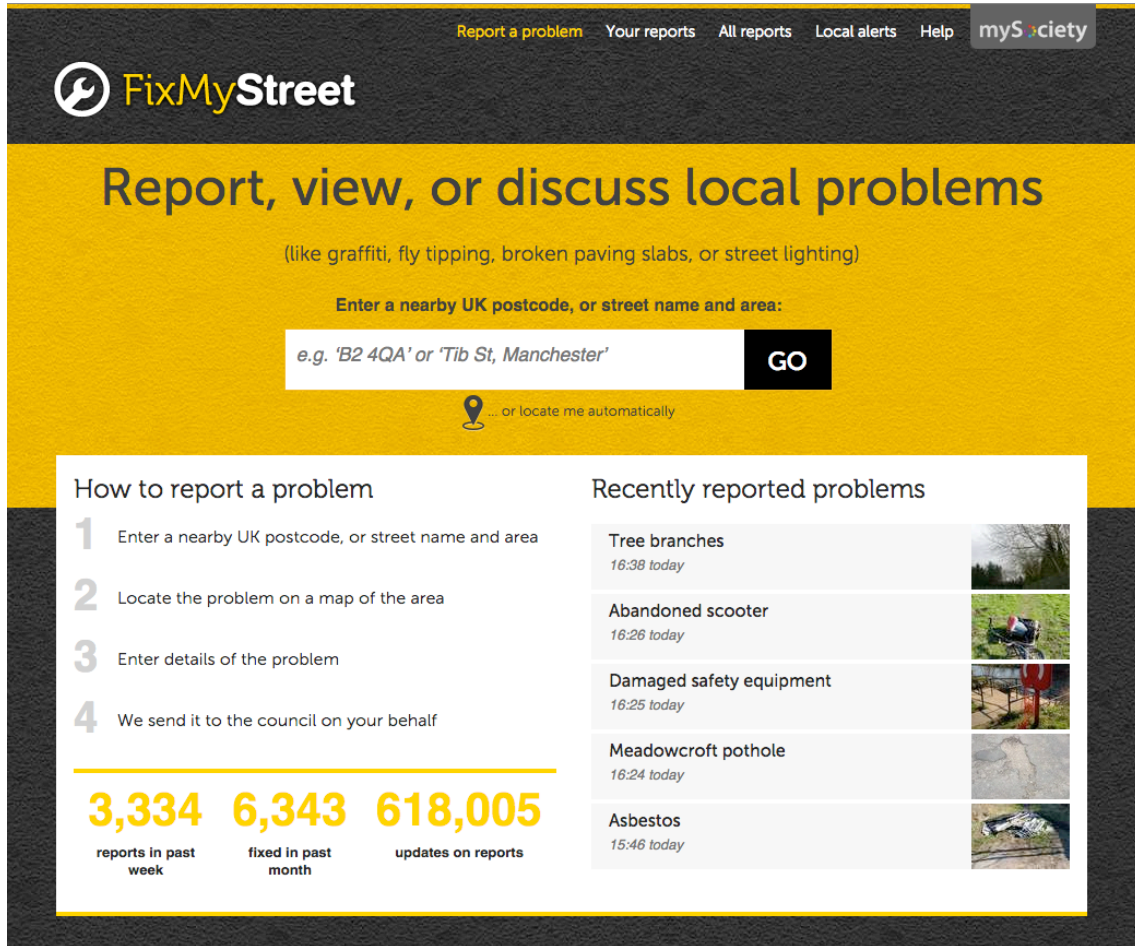
Fix my Street, allows citizens to file reports about local issues to local authorities, www.fixmystreet.com

As other civic tech projects that have shown to have impact[7], Fix my street was made available for easy customisations and is now used in many countries around the world. More at www.fixmystreet.org

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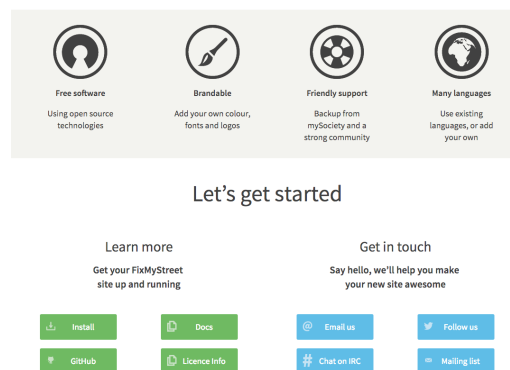
[7] A recent fixmystreet participation study found that positive first time experiences (e.g. reporting a pothole and having it fixed) associated with a significant increase in the likeliness that an individual will participate again. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2570898

6.3   Digital tools for citizens daily life

This category is vast. There are so many applications that aim to provide a user friendly and easy to use interface to solve important to niche everyday problems.

Aunt Bertha helps users find food, health, housing and employment programs based on their postal code.

TextMyBus provides a simple text messaging service to relay real time transit information to riders.

DBPS combines eligibility criteria, school data and advanced mapping tools to help parents choose a school for their child.

Other useful resources include the Civic Commons Wiki, a collaborative public library for open civic technology, at wiki.civiccommons.org and the Github repository of Code for America www.github.com/codeforamerica while the civic tech issue finder aims to point volunteers directly to issues in the code base to make small contributions to the code. See more at www.codeforamerica.org/geeks/civicissues

6.4   Networks and Communities

Although there are many initiatives, Code for America has become the most visible program that supports both civic technologists and governments to collaborate on building the government of the 21st century, "a government of the people, by the people and for the people" as a reference to President Abraham Lincoln's Gettysburg Address, 1863.

Code for America, www.codeforamerica.org

The Code for America program consists of four modules:

- the Fellowship program, sending teams of young innovators inside city governments to work with those agencies to   create and deploy open-source software for local governments;
- the Brigade program, supporting local civic tech communities that are driven by volunteers working on civic tech solutions for their cities;

- the Peer Network, providing a platform to exchange best practice for civil servants and local government staff;
- the Civic Startups program, aiming to support the best civic tech projects to turn their volunteer driven prototype into sustainable civic tech businesses.

Code for All is a network of civic tech initiatives from all around the world, including Code for Afrika, Code for Pakistan and Code for Japan. European partners of the network include Code for Germany, Code for Poland, Code for Ireland and Code for the Netherlands.

Code for Poland case study

Code for Poland is a community devoted to discussing, promoting and creating civic tech. While open data is not its only field of concern it's always been one of the core topics. From organizational point of view creating well-scaled civic tech is public administration responsibility. That is why even the independent grassroots movements like Code for Poland need to work closely with public administration which brings few interesting stories.

Since fall of 2013 CityLab Warsaw has been advocating for opening transit data. Functional mobile app that was prepared during first 4 months and has been running on data released through unofficial channels had to wait till April 2015 when city open-data portal was deployed, as a result of project led by cooperation of business, ngos and university. Code for Poland was involved in opening process from the beginning and took a major role in consulting city's API for 311 system. A downside to this long process is that many of project's original crew members has lost energy and interest to develop project on the way.

Having this experience in mind a different approach was taken with city of Kraków. Code for Poland members have joined the board of experts consulting "Krakow as a smart city" project led by Krakow Technology Park. Having region's key player backing led to productive work finalized with recommendations report concerning introducing open data and both technical and organizational side of 311 system for Krakow among few other topics.

One shouldn't loose faith in grassroots movements though. One good example is Civil Hub - a platform where citizens, city officials and NGOs can discuss ideas, projects, make polls, etc. Being a social network it crowd-source data which eliminates the need for close cooperation with the city at the beginning.

Finally there is My Country platform maintained by ePF Foundation which is the biggest source of open data in Poland, which started as grassroots project as well. Now it hosts its data to various initiatives of business, NGO, hackers community and

Code for Poland itself, which in the origins actually was thought as community reusing and mixing My Country data, but soon it expanded.

So from our experience: go big with big partners backing you or hack your way through crowdsourcing or scraping data not waiting for others. Either way be prepared for a long run and arm yourself with big cannons.

More information at www.kodujdlapolski.pl

Another international network that with the objective to support the development of civic tech projects is "Poplus: a global federation for civic tech".

Poplus - a global federation for civic tech, www.poplus.org

Poplus focuses on working together and sharing code to avoid reinventing the wheel. Poplus

thus has introduced a model of easy to re-deploy civic tech "components". The website states:

> "Organisations all over the world are holding governments to account, challenging corruption, and demanding the right to transparency, and they are using digital technologies to do so. Why should every organisation have to write their software from scratch? By sharing code, we can make things quicker and easier, freeing up time for the important things."

Another example of a civic tech project that is clearly designed to be used in advocacy for more OGD is the Open Data Index, developed by the Open Knowledge Foundation. The index is used to score the performance of governments in releasing 10 key datasets following open data principles. The countries can now be compared with each other, opening momentum for advocacy to push national governments for stronger commitments. As a crowd sourced tool, it also allows tracking down actual release on city level.
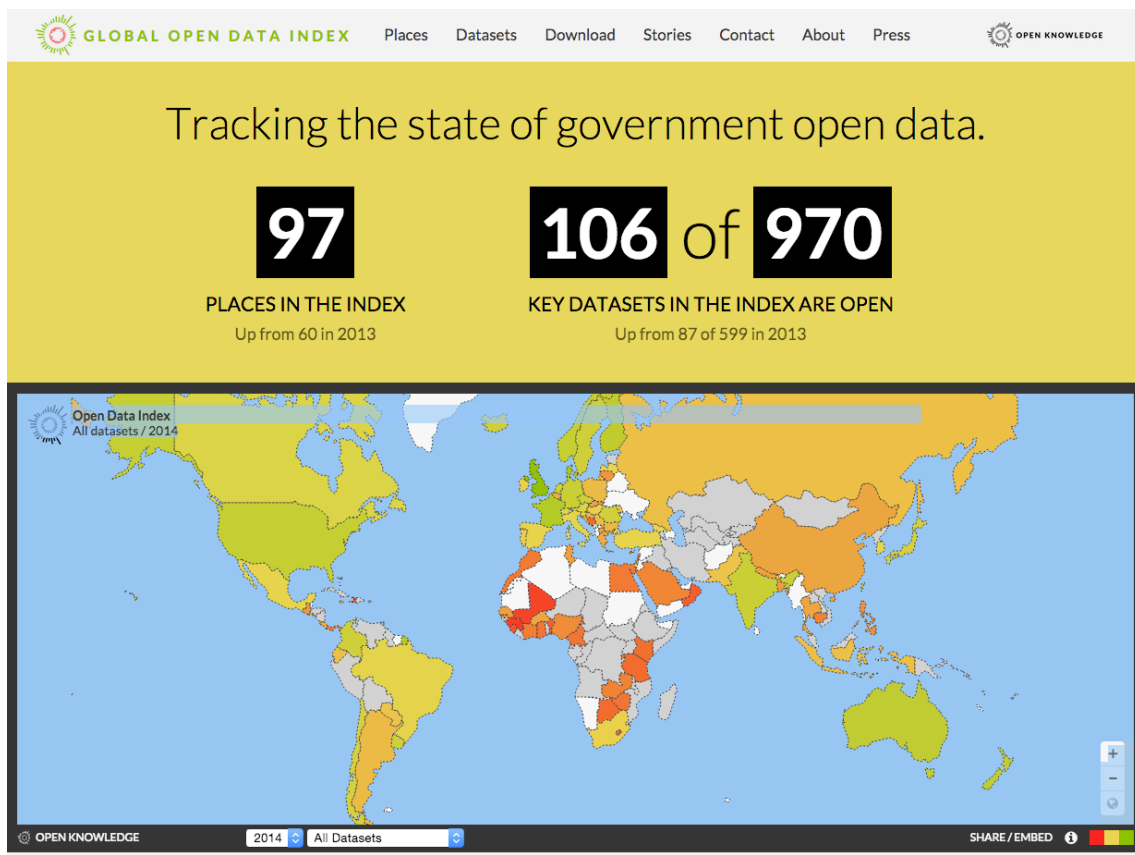
Open Data Index, index.okfn.org

7 Conclusions and recommendations

In accordance with the above mentioned Open Data Study and also supported by evidence from many OGD programs from around the world, this report highlights the importance of the third tier: an active civil society and in particular a small and motivated group of 'civic hackers', as a key factor for the success of any OGD program. This stakeholder group has shown to play a pioneering role in agenda setting and the development of respective national OGD programs with a mix of advocacy and the deployment of pilot projects that showcase the usefulness of open data for a government of the 21st Century. Although the importance of the engagement of this stakeholder group is widely recognized their role remain in most cases informal and un-official. Although this group is recognised as a key player, Governments around the world have little experience and practice on how to actually work with this stakeholder group in a more formal and structured manner. In some countries (Brazil, Uruguay) these informal collaborations have shown to be somehow operational or successful, while in some other countries public administration is still looking for a new modus operandi on how to work with these groups. An emerging concept is this regard are so called 'Public Community Partnerships', as an experiment for new collaborations between two stakeholders that function very differently. The findings of this report encourage governments to further explore new ways of collaboration recommends both groups to engage and learn from each other to jointly build the Government of the 21st Century.

About the Author

Daniel Dietrich is a digital rights and freedom of speech enthusiast. He is an open data and transparency evangelist, an aspiring trailblazer and humble world changer. He is a researcher, activist, author and curator at the intersection of media, technology and society. He is interested in empowering people through open knowledge and use technology to help make the world a little bit better. He has worked extensively on the technical, legal and policy aspects of open data and transparency with governments and leading organizations around the world. He is author of several studies on open government, open data, transparency, citizen engagement and civic tech. He is member of the Advisory board of the Open Knowledge Foundation and co-founder and Chairman of the OKF German Chapter. He is also member of the steering committee of the Open Data Working Group of the Open Government Partnership. From 2011 to 2013 he worked as editor of the European Commission funded platform on public sector information, the ePSIplatform.eu and is now on the ePSI Advisory board. Until 2011 he worked as a research associate at Technical University Berlin, Department of Internet and Society. Before that he worked several years as project manager & consultant in the IT business.

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