The future is open. Below, Founder of Open Knowledge, Rufus Pollock sets out the challenges in opening up data, and why we all win if we can achieve this.

Every day we face challenges – from the personal, such as the quickest way to get to work, or what we should eat, to global ones like climate change and how to sustainably feed and educate seven billion people on this planet.

At Open Knowledge we believe that opening up data – and turning that data into insight – can be crucial to addressing these challenges, and building a society in which is everyone – not just the few – are empowered with the knowledge they need to understand and effect change.

In the last decade, since Open Knowledge started work as an organisation, we had the opportunity to help create a diverse, global network in which we work with similar organisations and partners to open data and turn it into useful knowledge. Open has become a buzzword. But while much has been achieved, the world of data and information has become ever more complex. Data is everywhere and we commonly talk of 'digital economies' now, of a 'networked society'. But making sense of data - turning it into knowledge if you like - and then using it wisely, is still one of the greatest challenges we face as a global and increasingly interlinked society.

What is open data?

Opening data means making data accessible, making our world more transparent. Open also means finding new uses, new applications, new insights from data, creating tools, knowledge, making data and knowledge work for all of us better. According to the 'Open Definition': 'Open means anyone can freely access, use, modify, and share for any purpose (subject, at most, to requirements that preserve provenance and openness).'

In concrete terms the key features of openness are:

- Availability and access: the data must be available as a whole and at no more than a reasonable reproduction cost, preferably by downloading over the internet. The data must also be available in a convenient and modifiable form.
- Reuse and redistribution: the data must be provided under terms that permit reuse and redistribution including the intermixing with other datasets. The data must be machine-readable.
- Universal participation: everyone must be able to use, reuse and redistribute — there should be no discrimination against fields of endeavour or against persons or groups. For example, 'non-commercial' restrictions that would prevent 'commercial' use, or restrictions of use for certain purposes (e.g. only in education), are not allowed.

Personal data & Privacy

The kind of data mostly in the public eye is personal data - data about individuals, what they do, what they buy, what their loyalty cards or bank statements say about them, where they go, how their mobile apps can trace and analyse where they go, as well as who they interact with, privately and on social media. Social media, big data, government and corporate interests are all being questioned about what data they hold and how they use it. This kind of data should never be 'open' and freely accessible to everyone. Rather, we strongly believe that each of us should control *our* personal data - both to have access to it and to know (and decide) how it is used.

The Potential of Open Data

The movement to create open knowledge is a broad and only partly structured platform, with many different angles on privacy, personal freedom and corporate and government interests. What brings the Open Movement together is a belief that there is huge potential in openness. There is a large amount of data that is not personal. Data like governments' or local authorities' budgets, road maps, train times, ingredients in a candy bar, or where those jeans were made, or how much carbon dioxide was produced last year in different parts of the world. Data about the quality of schools, data on medical research, data made up of

cultural assets of our societies which have been digitalized. Much benefit is to be gained from making such data open, transparent and accessible.

Giving researchers, campaigners, journalists, NGOs, companies, policy-makers, individuals and citizens access to data means fundamentally empowering our societies, and strengthening our democracies. It is not about different sides opposing each other, but all sides winning insight and a better understanding, which can ultimately help to better understand and shape the world around us. A key aim of the Open Movement is to encourage and persuade governments and corporations who control publicly useful data to unlock it.

Through openness, we can ensure that technology and data improve science, governance, and society. Without it, we may see the increasing centralisation of knowledge – and therefore power – in the hands of the few, and a huge loss in our potential, individually and collectively, to innovate, understand, and improve the world around us.

With digital technology – from mobiles to the Internet – increasingly everywhere, we are seeing a data revolution. We are living this revolution both in the amount of data available and in our ability to use, and share, that data. And it is changing everything we do – from how we travel home from work to how scientists do research, to how governments set policy.

Turning Data into Knowledge

This is what Open Knowledge, as an organisation and as a platform bringing together a wealth of initiatives, research, projects and technical solutions, has been promoting for the past decade. As we enter our next decade, our focus is still on working to get governments and corporations to unlock their data and make it open, accessible and transparent. We are doing this because of the power of open data to unleash innovation, creativity and insight. It has potential to empower anyone – whether it is an entrepreneur, an activist or a researcher – to get access to information and use it.

It is key to remember here that real impact does not come directly from open data itself – no one's life is immediately improved by a new open data initiative or an additional open dataset. Data has to be turned into knowledge, information into insight – and someone has to act on that knowledge.

To do that takes tools and skills – tools for processing, analysing and presenting data, and skills to do that. This is why this is another key area of the Open Knowledge's work. With projects like School of Data we are working to teach data skills to those who need them most, and in Open Knowledge Foundation Labs we are creating lightweight tools to help people use data more easily and effectively.

Policy Challenges

But the Open Movement needs the support of policy-makers. Policy cannot be guided by individual media stories about data abuse. Data is also not a technical issue that can be isolated in a silo. Data is fundamentally about information, knowledge, about what we know about the world around us, how we interact, and how we live.

Consequently the challenges to policy-making are complex. Policy-makers who are to regulate data use need to be aware that they face the challenge to create an infrastructure which balances protection and opportunity. Often data may be very local, and the best use of it may be local in many cases. In other cases technical solutions can be of use in a variety of settings, and be geographically completely independent. And finally, much can be gained from comparing data, learning from insights gained somewhere else.

Any emerging regulatory frameworks need to see data holistically, as the Open Movement has been attempting to do. Data is not longer just an issue 'for the IT department'. How we use data influences how we live. Data turned into knowledge gives us insight and improves our personal lives, our communities, our health care systems, our local government, our central government spending and policy-making, how we consume, how we create markets, how we educate and evaluate our lives, and how we ensure the future of our societies,

economies and our environment. Regulators need to work ‘across departments’ to meet the challenge to create fitting policy-frameworks which can protect where needed, but also support openness and opportunity where this benefits citizens and society.

Focus on the people

Part of any such regulatory thinking needs to be a focus on people. We need encouragement, enabling, and support for education, so we build a strong skills base in people who use data, and the people who use the insights from that data to drive change. We need to create a culture of “open data makers”, people able and ready to make apps and insights with open data. We need to connect open data with those who have the best questions and the biggest needs – a healthcare worker in Zambia, the London commuter travelling home – and go beyond the data geeks and the tech savvy to make data be useful to all.

by Rufus Pollock, Founder, Open Knowledge