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Open Data as a Key Enabler of Smart Government

Session 3: Leveraging Emerging Technologies

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E-Governance: 'Vision to Implementation'

Open Data as a Key Enabler of Smart Government

Part 1: The Context

Smart Government Framework and Examples



Evolution of ICT in Public Sector:

from Informatization to Smart Government

1980-2000: Old Model

Informatization (Gov 1.0)

2000-2013: Current Model

 E-Government/e-Transformation/Open Government (Gov 2.0)

2014+: Emerging Model

Smart Government (Gov 3.0)



Old Model (1980-2000): Informatization High Costs – Limited Results

Gov 1.0: Computerizing the "Brick and Mortar" (industrial age) government

- Duplicative, wasteful IT investments
- Technology/supply/vendor-driven
- Ignoring or reinforcing organizational silos
- Limited back-end integration and sharing of data, infrastructure and services
- Focus on interoperability rather than sharing
- Limited process re-engineering that does not leverage the full power of ICT
- Limited change management
- Limited participation of the citizens and private sector
- Government-centric





Current Model (2000-2013): High costs – Better Results

Gov 2.0: Second-generation model of ICT-enabled government transformation into a more citizen-centric and integrated government.

Focus on sharing and integration and more recently (2008-2011) on transformation ("e-Transformation") and most recently (2012-2013) on openness ("Open Government").

Key trends:

- Whole-of-government perspective
- Sharing infrastructure and services
- e-Inclusion-for-all
- Multi-channel delivery of services, especially via mobile phones
- Change management and e-leadership
- Process re-engineering/admin reform

e-Government in 2014





Emerging Model: Smart Government Lower costs – Better Results

Next generation model of ICT-enabled public sector transformation into a **Smart** Government (Gov 3.0)

Simple Definition: What is Smart?

- Doing more (more focus on effectiveness, results) with less (more focus on efficiency, cost savings) and:
- More openly (more focus on transparency and accountability)
- More sustainably (more focus on social, political, environmental and financial sustainability)
- More securely (increased focus on cybersecurity)
- Faster (real-time, more agile service delivery and software development) and
- More inclusive, targeted and personalized delivery



S.M.A.R.T Government: Key Aspects

- Social: Not only highly personalized and citizen-friendly service delivery, but also allowing citizens and civil society to co-create with Government, especially via social media and crowdsourcing tools
- Mobile: Using the latest mobile technologies to deliver information and services, and get contributions from citizens, wherever and whenever they want – by Apps, SMS, Social Media, and Web-on-the-move – using mobile networks and cloud computing at the back-end
- Analytics: Using big data Analytics, sensors, and context Aware services to drive policy action and to individualize communications and transactions
- Radical-openness: "Open by Default" and "Open by Design" transforms
 Accountability and Transparency and engages citizens in co-creation, as
 well as enable businesses to use data for innovative new services
- Trust: Effective Cybersecurity so that services are resilient, available and protection of privacy



Putting it all together: Smart Government Ecosystem

Smart Government

Priorities

Enablers

Smart Jobs and Growth

Smart Cities & Villages

Smart Trade and Investments

Smart Education

Smart Healthcare

Smart Infrastructure

Shared ICT Services and Infrastructure

Innovation Infrastructure

ICT Capacity and Skills

Policy, Standards, Institutions and Laws

ICT Enablers as a Platform

1. Shared ICT Services and Infrastructure

- e.g. e-Procurement, HR, Office suite tools;
- Cloud, Mobile, Broadband, Cybersecurity, eID,
 Open/Big Data, Social Media, Sensors, Analytics

2. Innovation Infrastructure

e.g. innovation hubs, funding mechanisms, PPP...

3. ICT Capacity and Skills

e.g. capacity building and IT skills.

4. Policy, Standards, Institutional, Legal & Regulatory Framework

– e.g. institutions & policies.



Smart Government: So What?

Can Smart Government Enablers Really Help Achieve MDG Goals, e.g. Eradicate Poverty?

"Our strategy calls for us to become a Solutions Bank with results for the poor as our central benchmark."



Example of Smart Poverty Killer: the Aadhar Project (India)





Nandan Nilekani speaks at World Bank on the country's digital identification program (Aadhar)—what WB President Kim called a 'poverty killer' innovation

Part 2: Open Data as a Key Enabler of Smart Government



Part 2: Open Data as a Smart Enabler

What is Open Data?

Why Open Data?

Lessons Learned so far?

How can World Bank help?

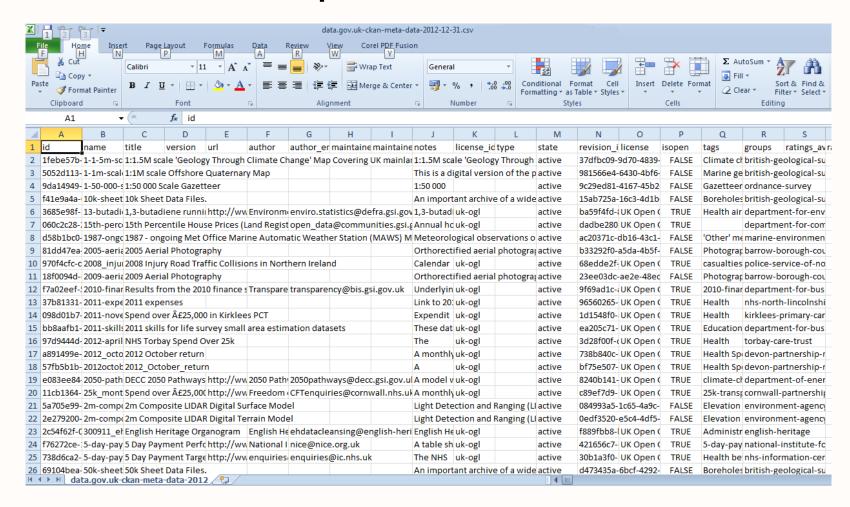


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What is Open Government Data?

What is Open Data?

Open data is data that can be freely used, reused and redistributed by anyone for any purpose.





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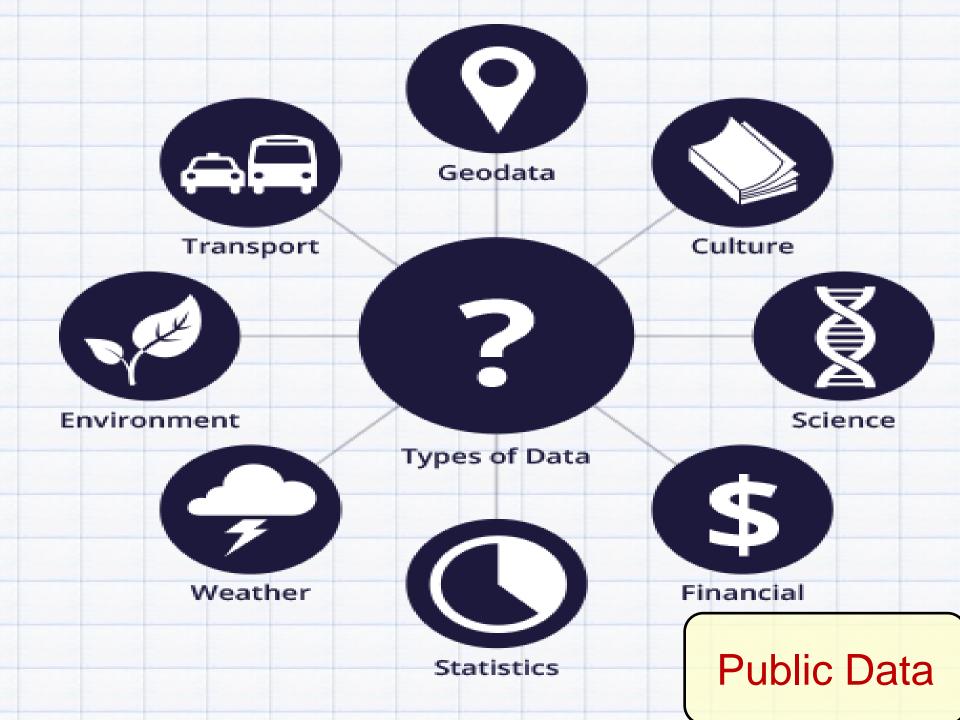
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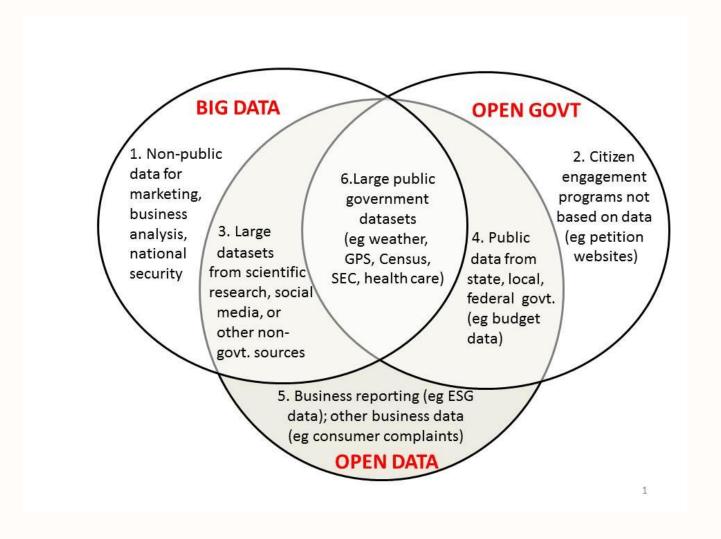
Usable by anyone ...



... for any purpose allowed by law



Big Data ≠ Open Data ≠ Open Government



Source: https://index.okfn.org/country Open Knowledge Foundation OPEN DATA INDEX Home Countries About Contributors NUMBER OF COUNTRIES 70 NUMBER OF DATASETS 700 NUMBER OF OPEN DATASETS 84 PERCENTAGE OPEN 12% The Open Data Index is an initiative of the Open Knowledge Foundation based on contributions from open data advocates and experts around the world. The Index results were compiled from the data collected from the Open Data Census. You can see a list of our global community of contributors here. Unsure No No data GOVERNIER Contrains Register Sort alphabetically by score 940 United Kingdom **United States** 855 835 Denmark 755 Norway **Netherlands** 740 700 Finland 670 Sweden

660

660

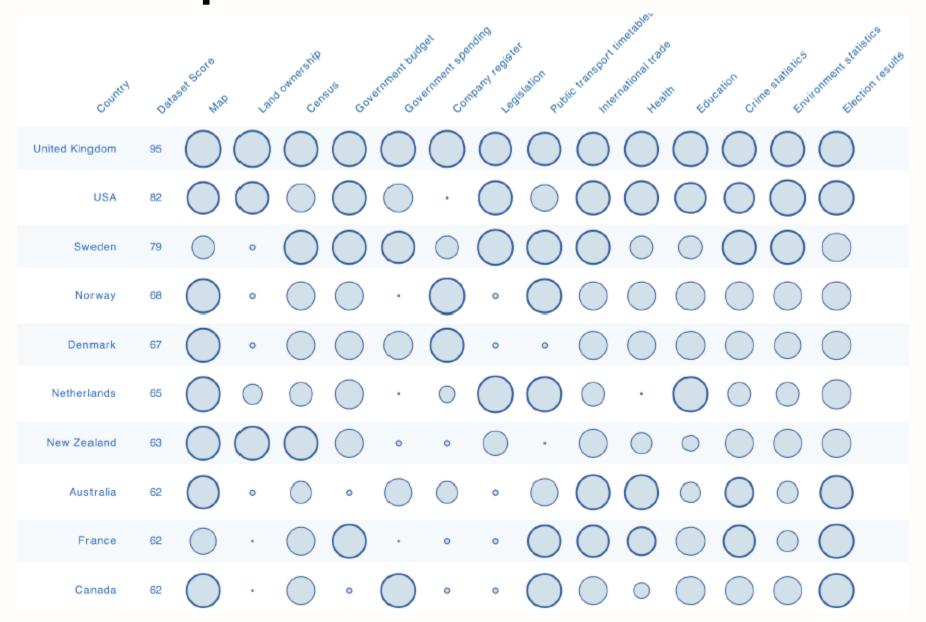
590

New Zealand

Australia

Canada

Open Data Barometer 2013



India @ Open Data Barometer 2013

How India scores in terms of data availability and openness Dataset score 34 Public transport timetable Map International trade Land ownership Health Census Education Government budget Crime statistics Government spending Environment stastics Company register **Election results** Legislation The Open Data Barometer scores are based on the availability of 1078 different datasets across 14 categories (including online availability, machinereadability, license, sustainability, timeliness of updates and discoverability). The larger the size of the circle, the higher the score.



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Why Open Government Data?



Open Data as Fuel for Innovation and Economic Growth

Economic Value of Open Data

McKinsey study: \$3 trillion annually worldwide

Open Gov Data in EU would increase business activity by up to €40 Bn/year, with total benefits up to €140 Bn/year (0.7% of GDP)

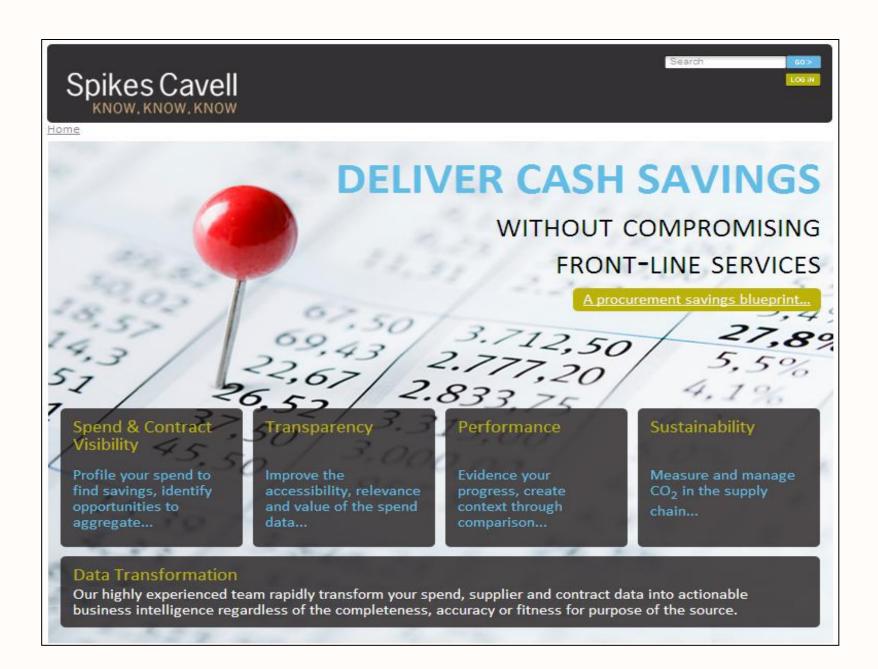
Australian study found ROI of ~500% from open data

Deloitte/POPSIS found open data was reused 10x-100x more than charged-for data

All economic analysis and case studies point the same way

Evidence of Impact of Open Data

- Releasing Global Positioning System data from 1994 now has \$122bn/yr benefits to US economy alone with 5.8m jobs in GPSintensive industries
- UK National Mapping Agency data supports £100bn/yr of GDP activity
- Open Weather Data in US has created 400 companies employing 4000 people
- Releasing addressing data as Open Data in Denmark gave \$21m/yr benefits and 2200% ROI
- Publishing the UK's 240 cardiac surgeons' individual clinical outcomes reduced deaths by 1000 a year
- 1000s of apps delivering public transport information in the United States – 68 in New York alone
- UK released data on location of 300,000 bus-stops; OpenStreetMap corrected 18,000 of them, improving official data accuracy.



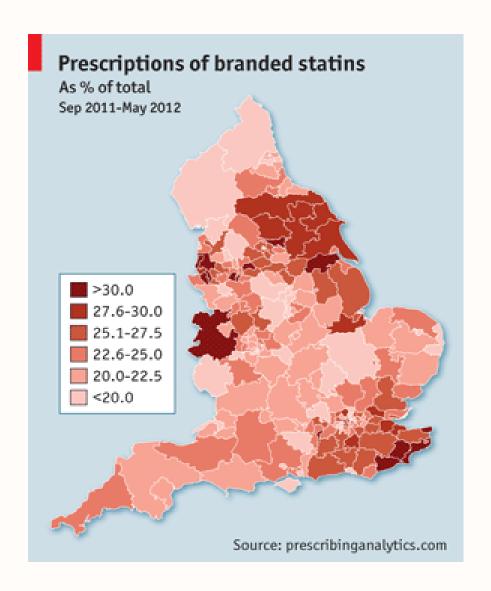
London: Open Data as a Transport Investment





- ~500 Applications
 (mobile, web, others)
- ~5000 people involved in "app industry"
- As a transport project alone, evaluated by usual economic criteria: Return On Investment = 58:1
- TFL have stopped making their own apps

Open Data Improves Efficiency



- Used experts in
 - Health
 - Data Analytics
- Analysed 35m data records
- 8 weeks
- £200m+/yr savings
- Repeatable
- Could scale to £1.5bn

Helps improve data quality



Home > Public Sector > News





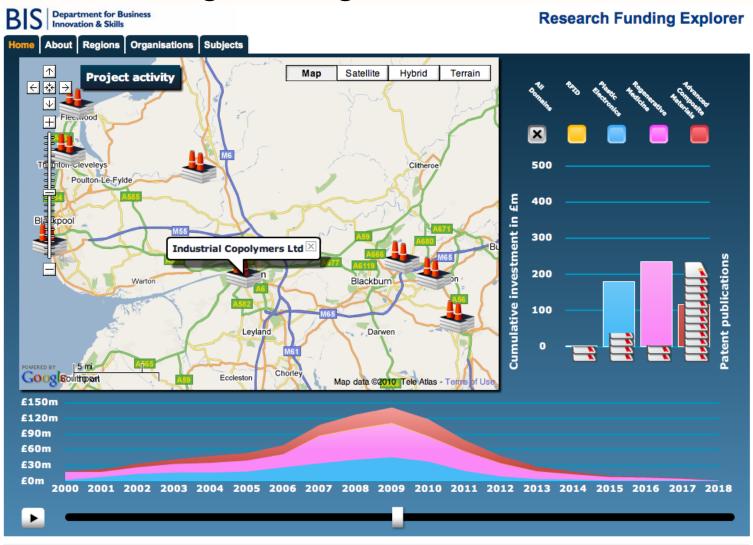
NHS records 20,000 pregnant men in the UK

Highlights a need for more sophisticated data capturing systems

By Anh Nguyen | Computerworld UK | Published 12:42, 17 April 12

A study of NHS data has discovered that there were 20,000 men using midwifery services between 2009 and 2010

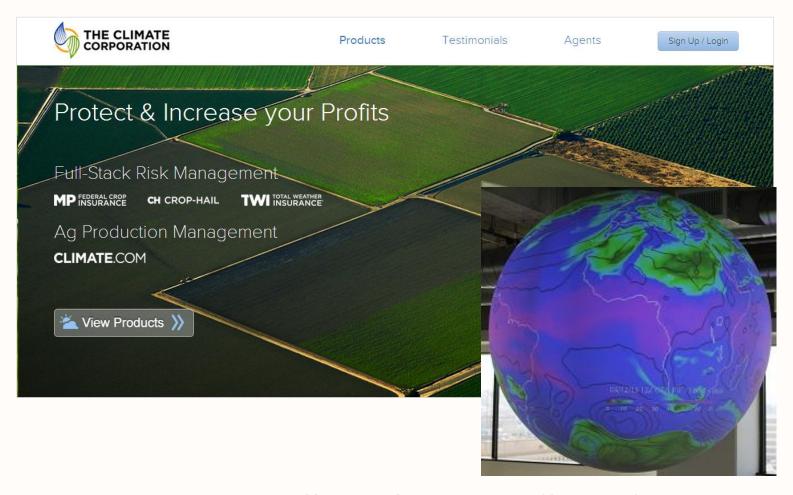
Assisting Foreign Inward Investment





Driving Business Growth

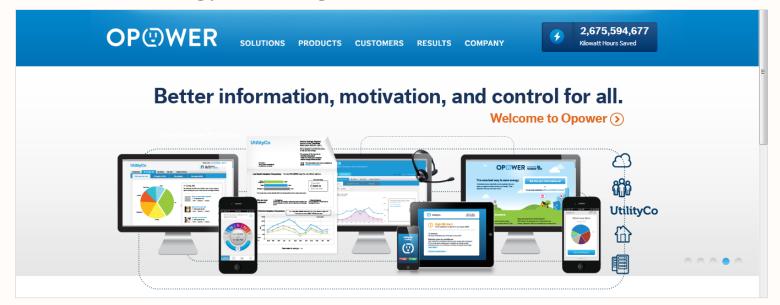
From Weather Insurance to Green Revolution



Climate Corporation offices in San Francisco

Driving Business Growth

Data for Energy Savings





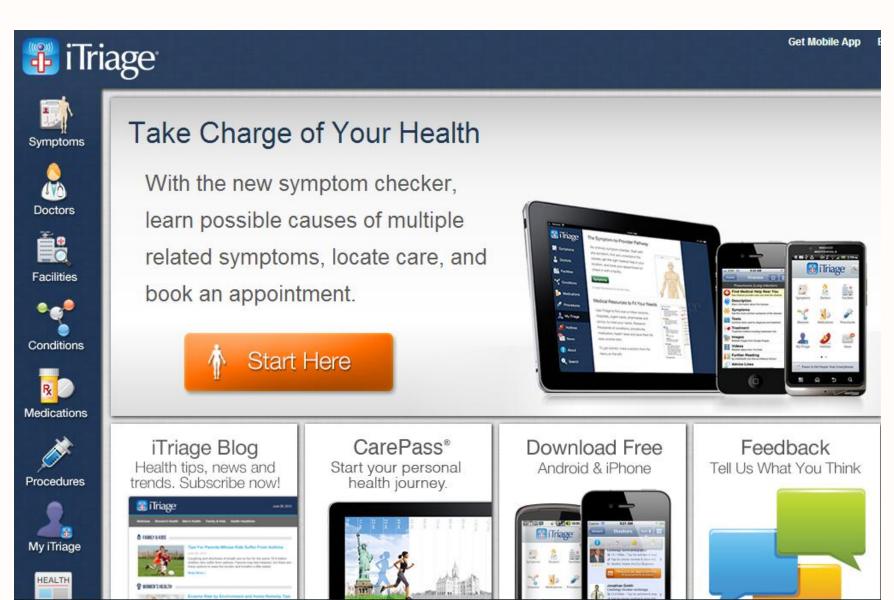
Ogi Kavazovic, VP Marketing & Strategy

Driving Business Growth

Healthcare: The Next Big Frontier?

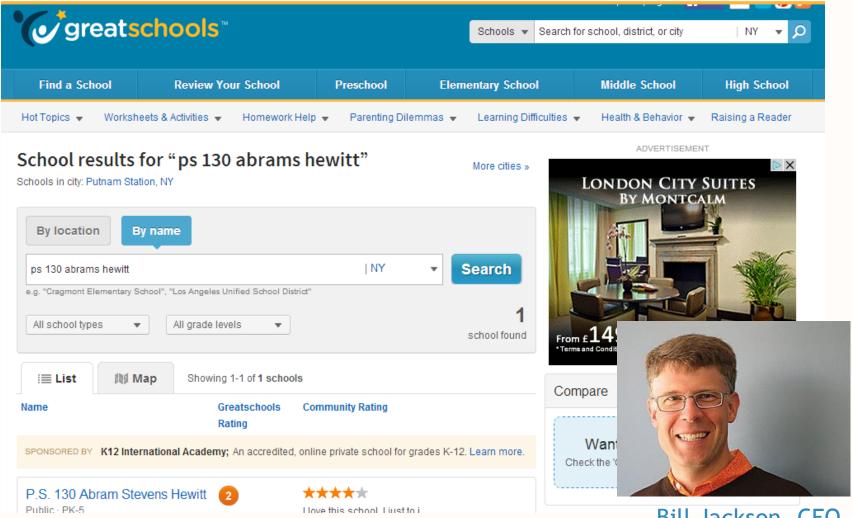


Driving Business Growth



Smart Disclosure for Consumer Choice

Help for K-12 Households



Uganda: Open Data and Community Health Monitoring



CO (1) Flickr.om/photos/649978358N08/5979623758

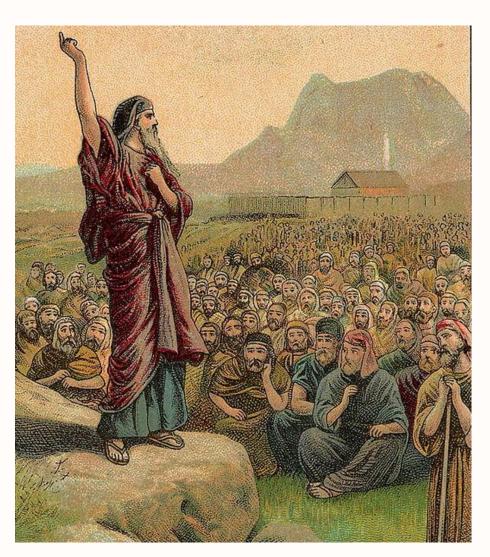
- 33% reduction in under-5 mortality
- 20% extra utilisation of out-patient services
- Significant improvements in:
 - Immunization
 - Waiting times
 - Absenteeism



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Open Government Data: Lessons Learned

Leadership is key



Government Data

[Open Data is] going to help launch more businesses. . . . It's going to help more entrepreneurs come up with products and services that we haven't even imagined yet.



President Barack Obama



Neelie Kroes: Data is the new gold!

Wednesday, December 14, 2011 // Blog



On December, 12 2011 Neelie Kroes (Vice-President of the European Commission) gave a speech about the Open Data Strategy of the EU. I'm not going to repeat the whole speech, you can read a transcript here but I must say that I heard a lot of encouraging statements in it!



"Greater transparency will enable the public to hold politicians and public bodies to account"



"Public information does not belong to Government, it belongs to the public."

Data Publishing – Star Quality

★ Put your data on the Web with an Open

Licence (any format)

★★ Make it available as structured data (e.g.

Excel, CSV, instead of PDF)

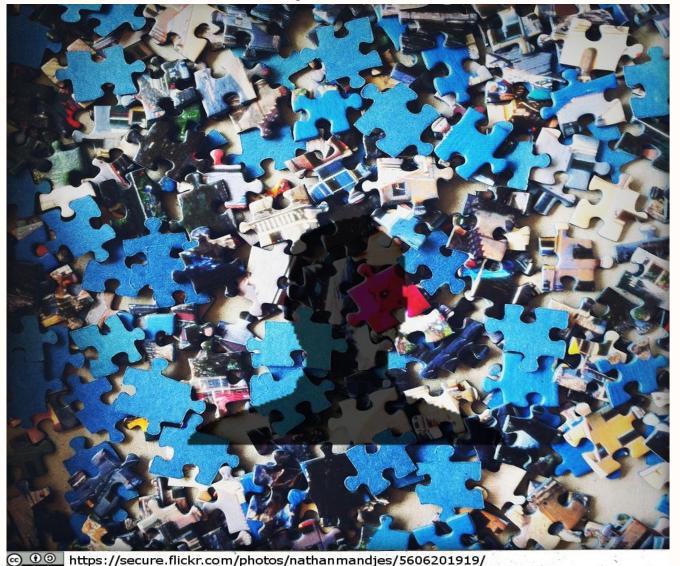
★★★ Use open, standard formats (e.g. XML, RDF)

Use URLs to identify things (so people and

machines can point at your data)

Link your data to other people's data

Ensure Privacy of Personal Data



Focus on data on things that people care about





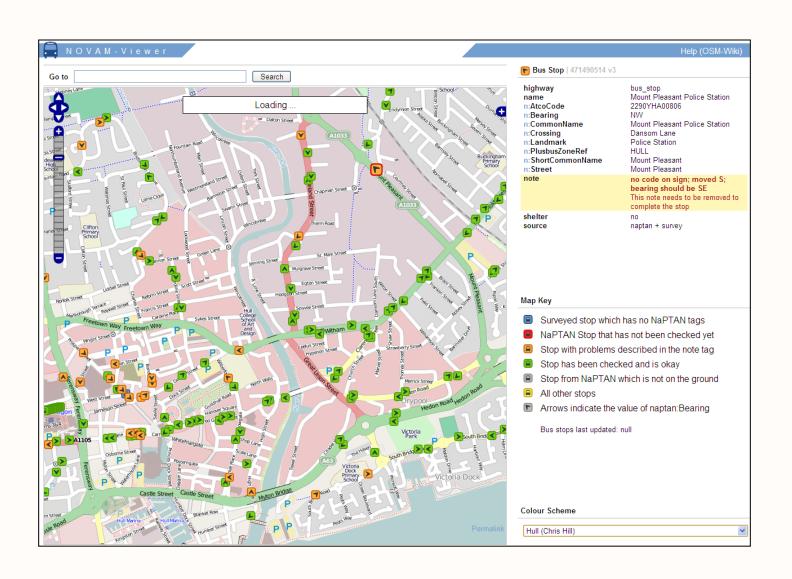








Using citizens to help improve data



Open Data Ecosystem

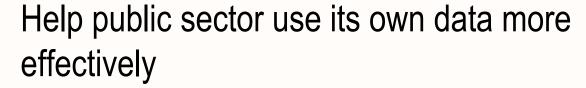


UK Open Data Institute



Develop capability of UK businesses to exploit value of Open Data

Engage developers/small businesses to build Open Data supply chains and commercial outlets



Ensure academic research in Open Data technologies





It's not (just) an IT project!

CIOs can give leadership, but

CIOs/IT Directors often do not "own" the data

Key issues are business, policy and politics: don't let policy makers brand it as "just IT"

Keep the IT simple

use Open Source (CKAN, Drupal, etc)

use existing contracts/infrastructure with niche firms

host data on existing websites or on public Cloud

Use revealed legacy data quality issues as spur for improvement

not as an excuse for doing nothing

Frequent concerns and excuses

We can not publish data because...

Ways to address this...

Our data is not reliable, the quality of our data is low, there is no consensus

Publish what you use!
Use open data to improve data quality

Privacy of people needs to be preserved

Use data anonymization techniques

National security, sensitive data

Establish a system to determine what data is threatening to national security

We sell our data, how will we replace those resources?

Very valid concern. Budget authorities need to understand that data is a public good and replace your budget



OPEN GOVERNMENT DATA How the World Bank Can Help?

How we help with Open Government Data

- ASSESSMENTS AND ACTION PLANS
- KNOWLEDGE SHARING, ADVICE AND TRAINING
- STIMULATING INNOVATION USING OPEN DATA
- DEVELOPING CIVIL SOCIETY CAPABILITIES

OPEN DATA READINESS ASSESSMENTS AND ACTION PLANS

Conduct an action-oriented assessment of the readiness of a country, sector, region or city - to evaluate, design and implement an Open Data initiative or a particular aspect.

Readiness Assessments and Action Plans piloted in:

- Ulyanovsk, Russian Federation
- Antigua and Barbuda
- Tanzania
- Rwanda
- Peru
- Mexico
- Burkina Faso



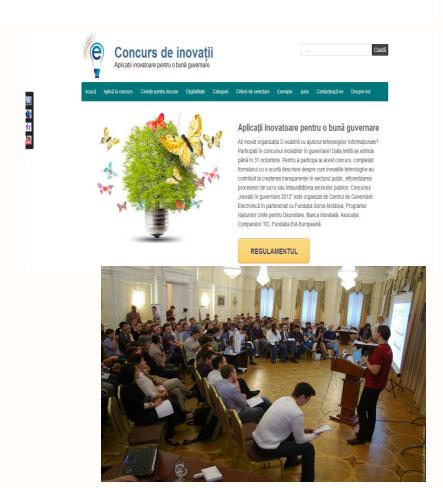
KNOWLEDGE SHARING, ADVICE AND TRAINING

- International Open Government Data Conferences
- Regional Conferences
- Country Workshops
- Technical assistance and reimbursable advisory services on open data

STIMULATING INNOVATION USING OPEN DATA

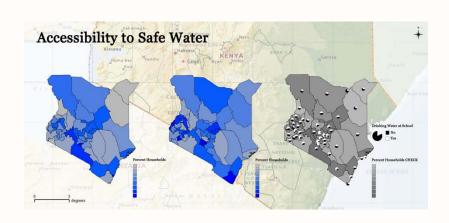
Bringing international experts and local talent together to make quick progress in using data in new, valuable ways.

- Open Innovation Weeks and TechCamps
- Water, Transport and Sanitation Hackathons
- Apps contests
- Mobile Innovation Camps



DEVELOPING CIVIL SOCIETY CAPABILITIES

Organizing data journalism boot camps, making budget data easy to understand, producing foreign aid maps, and other initiatives to promote the effective, responsible use of open data.

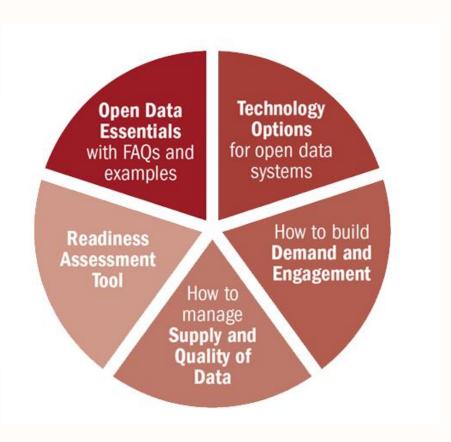




Open Government Data Toolkit

http://data.worldbank.org/open-government-data-toolkit

The Toolkit is designed to help our government clients get "up to speed" in planning and implementing an open government data program while avoiding common pitfalls.



POD: PARTNESHIP FOR OPEN DATA

An initiative designed to help policy makers and citizens in developing countries understand and build on the benefits of open data.

Objectives:

Supporting developing countries to plan, execute and run open data initiatives



- Increase re-use of open data in developing countries
- Grow the base of evidence on the impact of open data for development









Thank you!

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Slide Credits: Andrew Stott, Jeff Kaplan, Joel Gurin, Iulian Pogor