

Open data and business

# Agenda

Trends affecting data and business

Rationale for brands

Business modeling

Innovating with open data

Startups using open data

Briefing for tomorrow





Image CC A-SA <http://www.flickr.com/photos/29712408@N02/5086456430>

# Exercise

Take your minds back to before the web (if you can).

- List as many businesses and sectors that have been disrupted since then and how.
- What new business models have developed? List some examples.
- How much was predictable?





Claims being made for  
open data ...



*‘Open data will drive growth, ingenuity and innovation in the UK economy’*

Deloitte, 2013



# Deloitte: open data report

There are four key aspects to our vision:

- 1** Every business will have a strategy to exploit the rapidly growing estate of open data.

---

- 2** Businesses will increasingly open up their data to revolutionise the way they compete.

---

- 3** Businesses will use open data to inspire customer engagement.

---

- 4** Businesses will work with the Government to establish a new paradigm in data responsibility and privacy.

<http://www.deloitte.com/assets/dcom-unitedkingdom/local%20assets/documents/market%20insights/deloitte%20analytics/uk-insights-deloitte-analytics-open-data-june-2012.pdf>



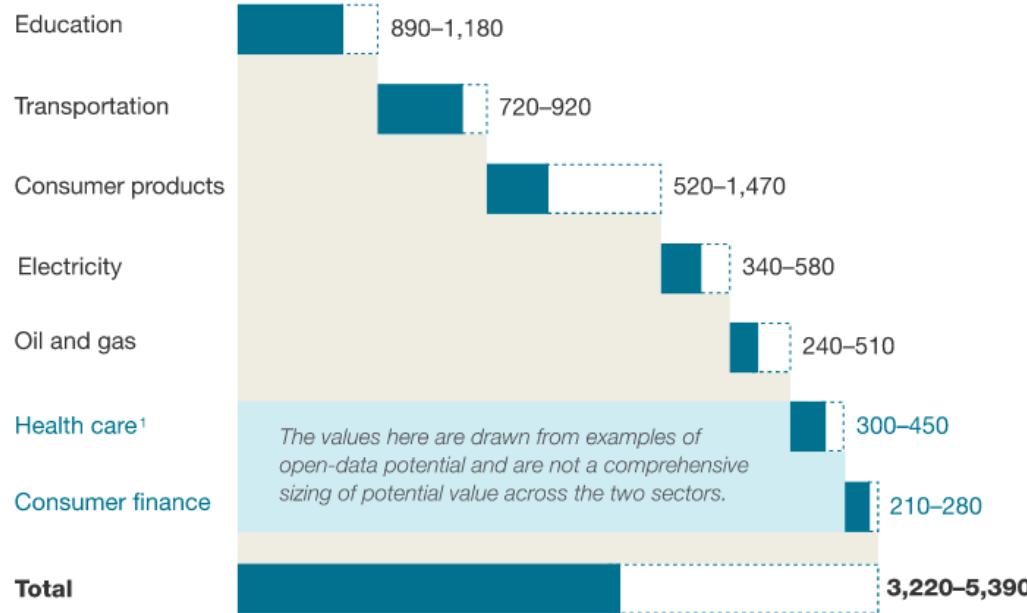
# McKinsey estimate open data can unlock \$3-5 trillion across 7 sectors

[http://www.mckinsey.com/insights/business\\_technology/  
open\\_data\\_unlocking\\_innovation\\_and\\_performance\\_with\\_liquid\\_information](http://www.mckinsey.com/insights/business_technology/open_data_unlocking_innovation_and_performance_with_liquid_information)



Open data can help unlock \$3 trillion to \$5 trillion in economic value annually across seven sectors.

Potential value in open data, \$ billion



<sup>1</sup>Includes US values only.

Source: McKinsey Global Institute analysis

[http://www.mckinsey.com/insights/business\\_technology/  
open\\_data\\_unlocking\\_innovation\\_and\\_performance\\_with\\_liquid\\_information](http://www.mckinsey.com/insights/business_technology/open_data_unlocking_innovation_and_performance_with_liquid_information)



# McKinsey: Open data can...

- Become an instrument for breaking down information gaps across industries
- Allow companies to share benchmarks and spread best practices that raise productivity
- Blended with proprietary data sets, it can propel innovation
- Help organizations replace traditional and intuitive decision-making approaches with data-driven ones.
- Help uncover consumer preferences, allowing companies to improve new products and to uncover anomalies and needless variations. That can lead to leaner, more reliable processes.

[http://www.mckinsey.com/insights/business\\_technology/  
open data unlocking innovation and performance with liquid information](http://www.mckinsey.com/insights/business_technology/open_data_unlocking_innovation_and_performance_with_liquid_information)



# Have they got it right?



## Trends

Some ideas I prepared earlier...



# Trend: Moore's law and some...

Cost of working with data has lowered and is continuing to fall



Sign Up

My Account / Console ▾

English ▾

AWS Products & Solutions ▾

AWS Product Information ▾



Developers ▾

Support ▾

Amazon S3
<a href="#">Amazon S3 Overview</a>
<a href="#">FAQs</a>
<a href="#">Pricing</a>
<a href="#">Amazon S3 SLA</a>

Developer Resources
<a href="#">Getting Started Guide</a>
<a href="#">AWS Management Console</a>
<a href="#">Documentation</a>
<a href="#">Release Notes</a>
<a href="#">Sample Code &amp; Libraries</a>
<a href="#">Developer Tools</a>
<a href="#">Articles &amp; Tutorials</a>
<a href="#">Community Forum</a>

## Amazon Simple Storage Service (Amazon S3)

Amazon S3 is storage for the Internet. It is designed to make web-scale computing easier for developers.

Amazon S3 provides a simple web services interface that can be used to store and retrieve any amount of data, at any time, from anywhere on the web. It gives any developer access to the same highly scalable, reliable, secure, fast, inexpensive infrastructure that Amazon uses to run its own global network of web sites. The service aims to maximize benefits of scale and to pass those benefits on to developers.

### Get Started with AWS for Free

[Create Free Account »](#)

AWS Free Tier includes 5GB storage, 20,000 Get Requests, and 2,000 Put Requests with Amazon S3.

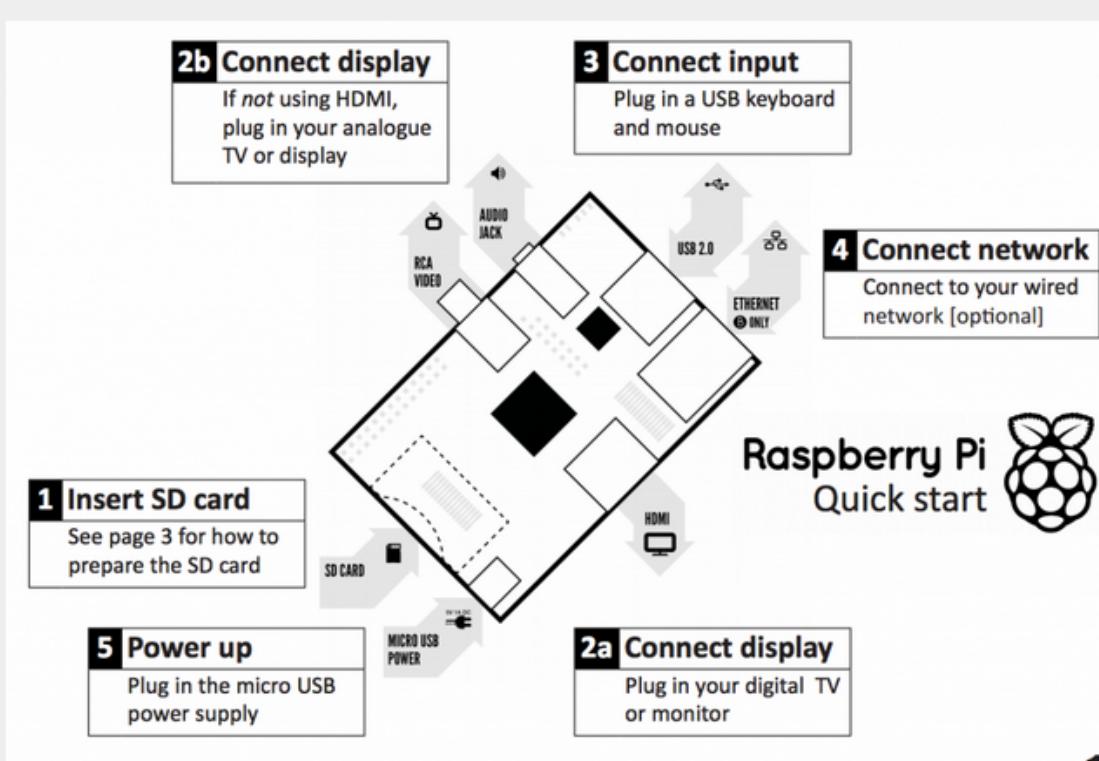
[View AWS Free Tier Details »](#)

This page contains the following categories of information. Click to jump down:

- [↓ Amazon S3 Functionality](#)
- [↓ Protecting Your Data](#)
- [↓ Managing Your Data](#)
- [↓ Pricing](#)
- [↓ Getting Started with Amazon S3](#)

- [↓ Transferring Large Amounts of Data](#)
- [↓ Common Use Cases](#)
- [↓ Resources](#)
- [↓ Amazon S3 Design Requirements](#)
- [↓ Intended Usage and Restrictions](#)





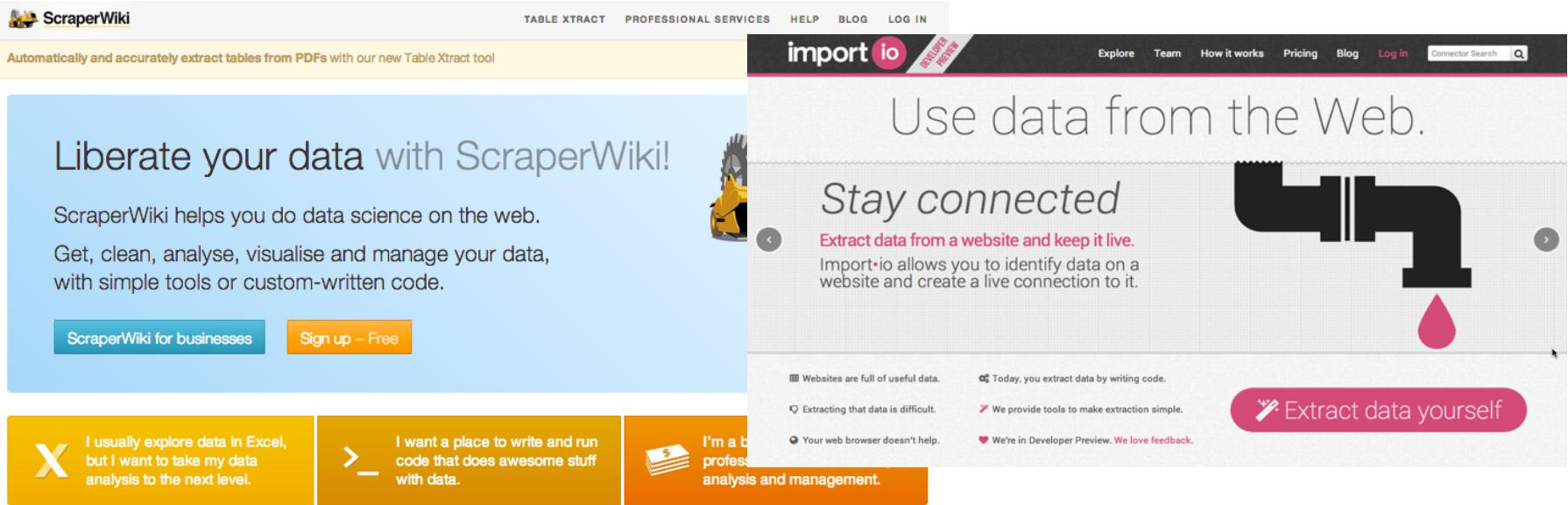
Click for multi-page PDF quick start guide

<http://www.raspberrypi.org/quick-start-guide>



# Trend: working with data is easier

## Data scraping, cleaning and analysing tools becoming easier to use – without the need for coding skills



The image shows two screenshots of data extraction tools side-by-side.

**ScraperWiki:** A screenshot of the ScraperWiki homepage. It features a yellow header with the ScraperWiki logo and navigation links for TABLE XTRACT, PROFESSIONAL SERVICES, HELP, BLOG, and LOG IN. Below the header, a banner says "Automatically and accurately extract tables from PDFs with our new Table Xtract tool". The main content area has a blue background with the heading "Liberate your data with ScraperWiki!". It describes the tool as helping users do data science on the web, get clean data, analyse, visualise and manage it with simple tools or custom-written code. Buttons for "ScraperWiki for businesses" and "Sign up – Free" are visible. At the bottom, there are three orange callout boxes: one for users who usually explore data in Excel, one for users who want to write and run code, and one for professionals who need analysis and management.

**import.io:** A screenshot of the import.io homepage. The header includes the import.io logo, a "DEVELOPER PREVIEW" badge, and navigation links for Explore, Team, How it works, Pricing, Blog, and Log in. A search bar is also present. The main headline is "Use data from the Web." Below it is a large graphic of a black pipe with a red drop falling from it. The section titled "Stay connected" explains that Import.io allows users to identify data on a website and create a live connection to it. It lists several bullet points: Websites are full of useful data, Extracting that data is difficult, We provide tools to make extraction simple, and We're in Developer Preview. We love feedback. A prominent button at the bottom right says "Extract data yourself".

<http://import.io/> <https://scraperwiki.com/>



# Trend: access to the web

GLASS

What's New

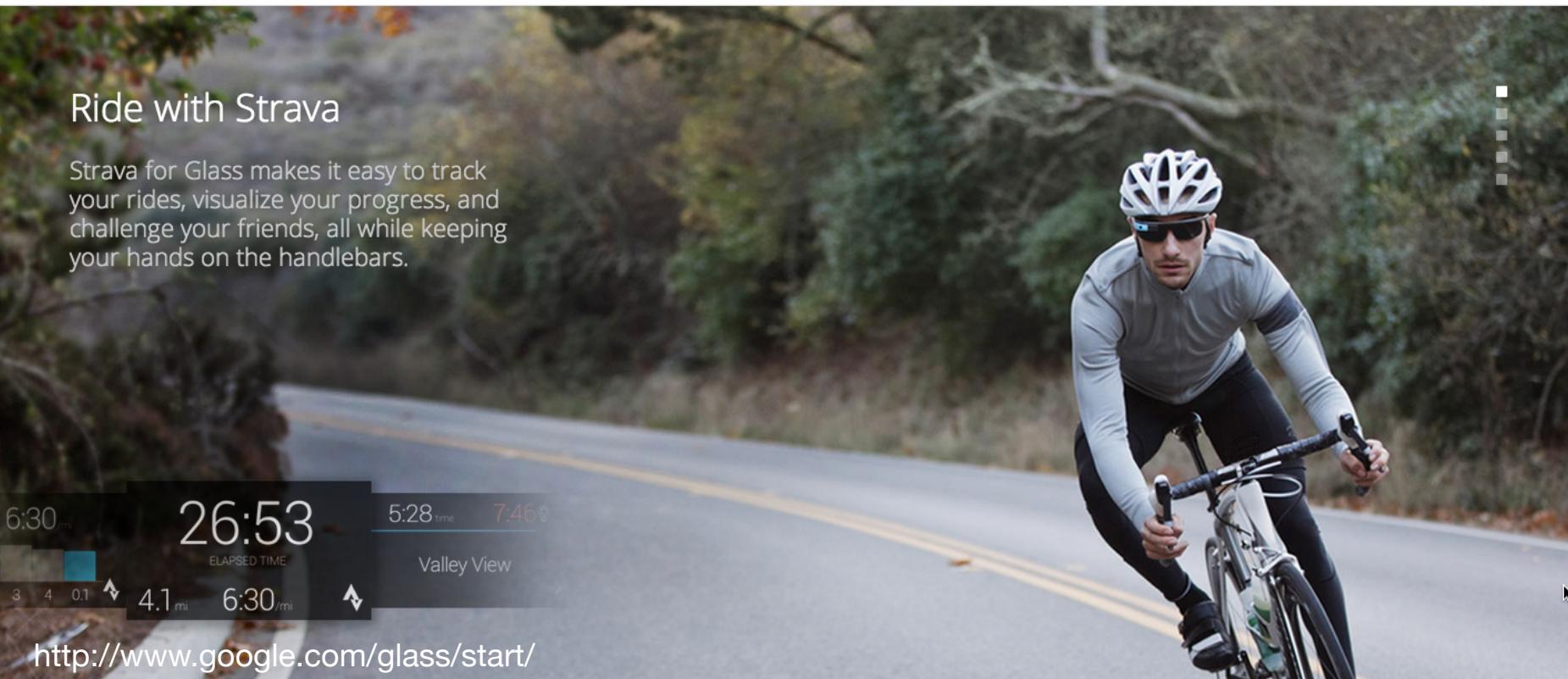
How it Feels

What it Does

How to Get One

## Ride with Strava

Strava for Glass makes it easy to track your rides, visualize your progress, and challenge your friends, all while keeping your hands on the handlebars.

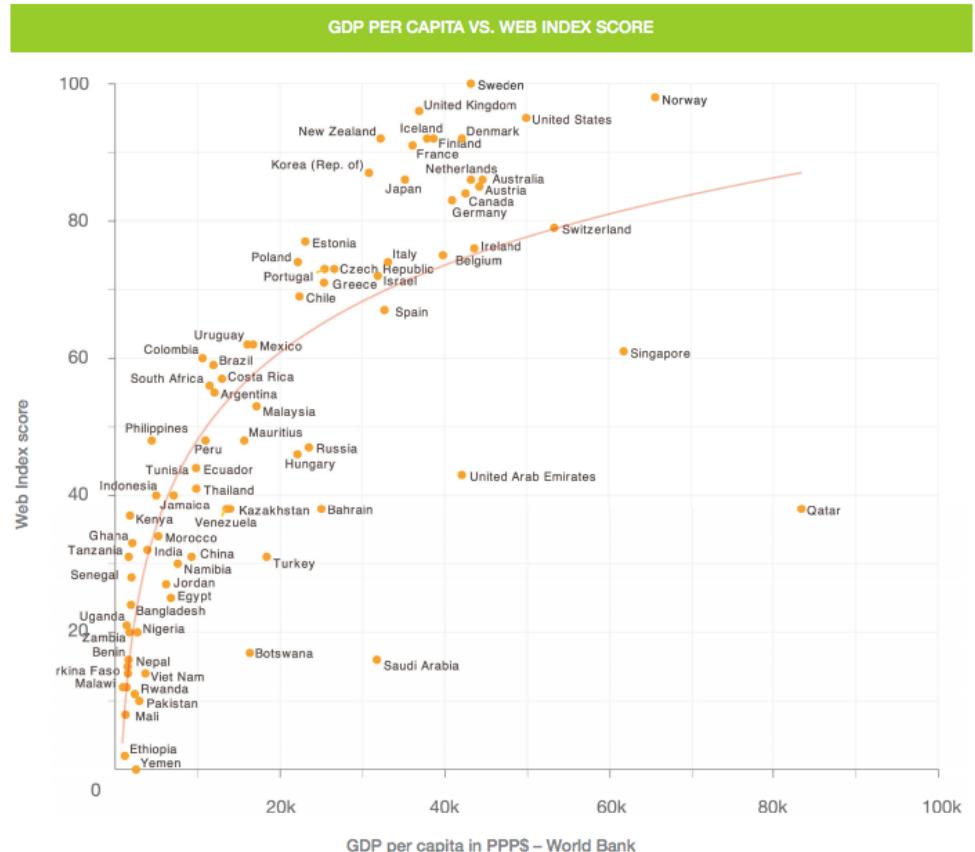


<http://www.google.com/glass/start/>



# November 2013 – Web Index Report

Global Internet access  
has more than doubled  
— rising from 16% to  
39% since 2003



<https://beta.thewebindex.org/2013/11/Web-Index-Annual-Report-2013-FINAL.pdf>



# Trend: access to the web increasing - per capita and in ease of use

- Ability to get information and data quickly and easily
- Increasing use of mobile devices to access the web
- Responsive design enabling better user experience on mobile devices
- New devices – cheaper and smarter



# Trend: Increasing data collection



[Back to latest news](#)

 **The "Internet of things" will be trialled at London City Airport**  
**September 2013**

London City are pleased to announce that the Technology Strategy Board will help support LCY with the "Internet of things" (IoT)- demonstrator. The TSB have only funded a small number of organisations with their demonstrator project which we are elated to trial.

The IoT is a concept of connecting machines and objects together through networks to help monitor, control and manage environments. London City will take the concept to the next level to develop an interconnected sensor network and data hub to track, understand and better manage passenger flow and behaviour, bringing the ability to interact with passengers at key touch points across the airport.

Key features will include management of passenger movement through the airport, journey time measurements, customer loyalty programmes and location specific services such as personalised parking and travel information, real time wayfinding, queuing systems, luggage tracking, airport asset tracking and the ability to locate people in emergency situations. This project utilises Living Planet Urban Operating System technology and is being led by a consortium of organisations including Milligan, IBM, Cisco Systems and a number of SME technology businesses.

The project is due to be completed in March 2014.

For more information on the Technology Strategy Board visit [www.innovateuk.org](http://www.innovateuk.org).

**LCY Blog**  
Enter the discussion on all things to do with London City Airport  
[Read more](#)

**LCY Tweets**  
Dusseldorf services return from London City Airport from 1 September 2013. Find out more <http://rt.co/Xe5kLjM0L>

Check out our latest video on how to best spend your time Edinburgh <http://rt.co/Tz2RqGq>

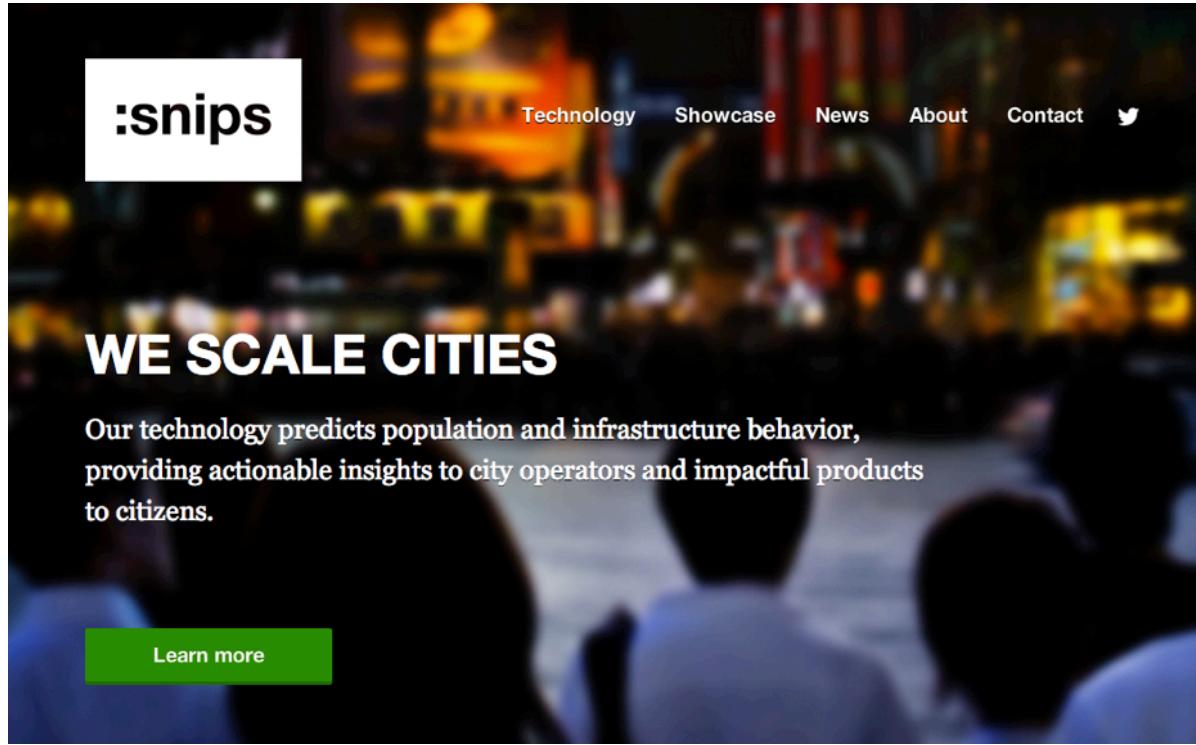
Ply to Edinburgh from £150 return. Book flights by clicking here <http://rt.co/GPwP9Qm>

**@webtellerround** Thank you for getting back to us Stuart - we have informed our terminal management team.

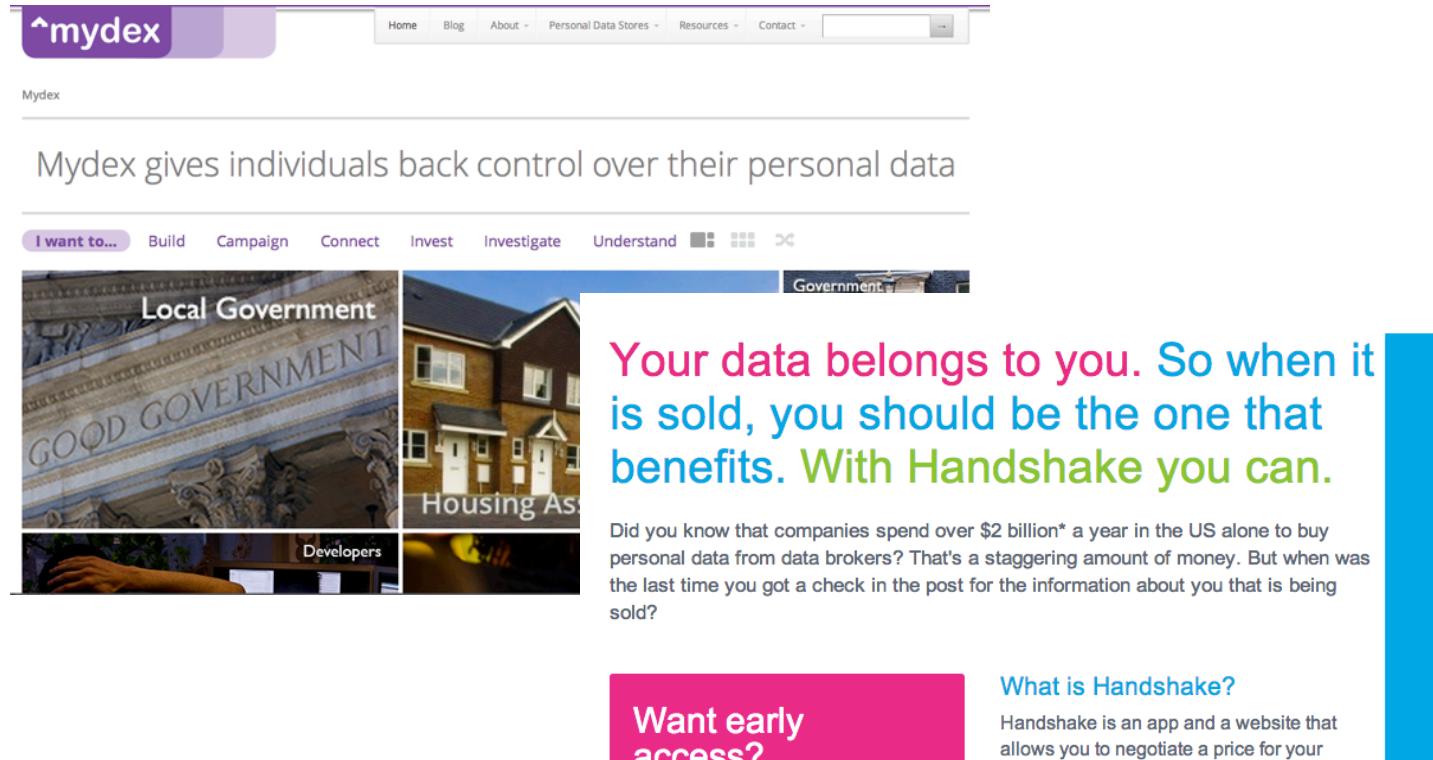


<http://www.londoncityairport.com/News/ReadArticle/93/> <http://www.villevivante.ch/#animation>

# Example: ‘smart’ cities



# Trend: quantifying and controlling personal data



The screenshot shows the Mydex website homepage. At the top, there's a purple header bar with the Mydex logo and a navigation menu with links for Home, Blog, About, Personal Data Stores, Resources, and Contact. Below the header, a main title reads "Mydex gives individuals back control over their personal data". A horizontal menu below this has items: "I want to...", Build, Campaign, Connect, Invest, Investigate, Understand, followed by three small icons. The main content area features a collage of images: a building facade labeled "Local Government" and "GOOD GOVERNMENT"; a row of houses labeled "Housing As..."; and a hand holding a smartphone labeled "Developers". To the right of the collage, a large blue banner contains the text: "Your data belongs to you. So when it is sold, you should be the one that benefits. With Handshake you can." Below this, a paragraph of text states: "Did you know that companies spend over \$2 billion\* a year in the US alone to buy personal data from data brokers? That's a staggering amount of money. But when was the last time you got a check in the post for the information about you that is being sold?" At the bottom left, a pink button says "Want early access?". To the right, a section titled "What is Handshake?" describes the service as an app and website for negotiating prices.

Mydex gives individuals back control over their personal data

I want to... Build Campaign Connect Invest Investigate Understand

Local Government  
GOOD GOVERNMENT

Housing As...

Developers

Your data belongs to you. So when it is sold, you should be the one that benefits. With Handshake you can.

Did you know that companies spend over \$2 billion\* a year in the US alone to buy personal data from data brokers? That's a staggering amount of money. But when was the last time you got a check in the post for the information about you that is being sold?

Want early access?

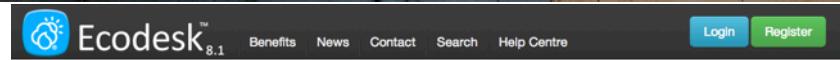
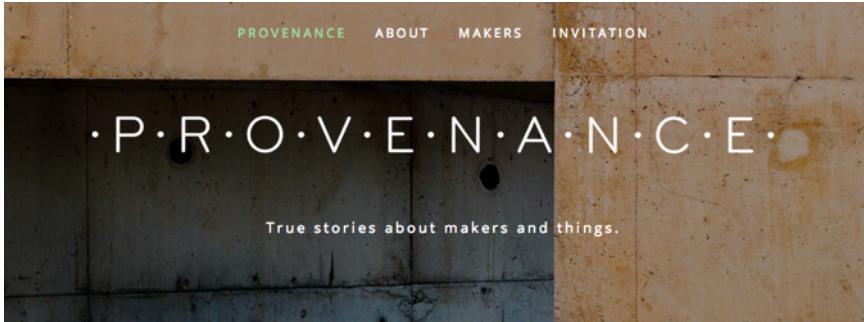
What is Handshake?

Handshake is an app and a website that allows you to negotiate a price for your

<http://mydex.org/> <http://www.handshake.uk.com/hs/index.html>



# Trend: Demands for greater transparency



Ecodesk enables organisations to improve the management and performance of their supply chain and to reduce their inherent risk through the collection and aggregation of sustainability and social data presented via customised dashboards and score cards. Its unique approach of "free data" entry and simple communication differentiates it from its competitors and encourages co-operation and data input at all levels.

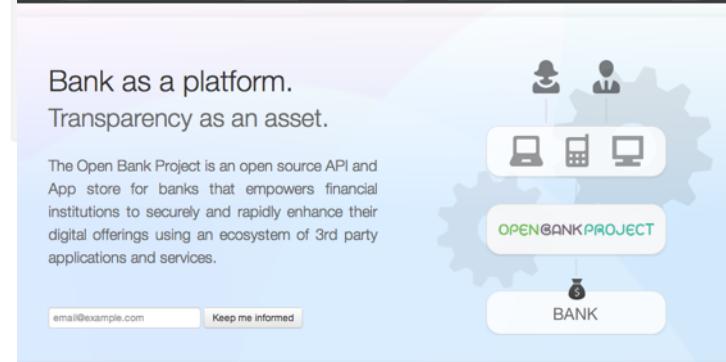
## Join Now

Search, manage and connect Ecodesk profiles globally. Add suppliers and customers, making your sustainability responsibility more transparent.

[Register](#)



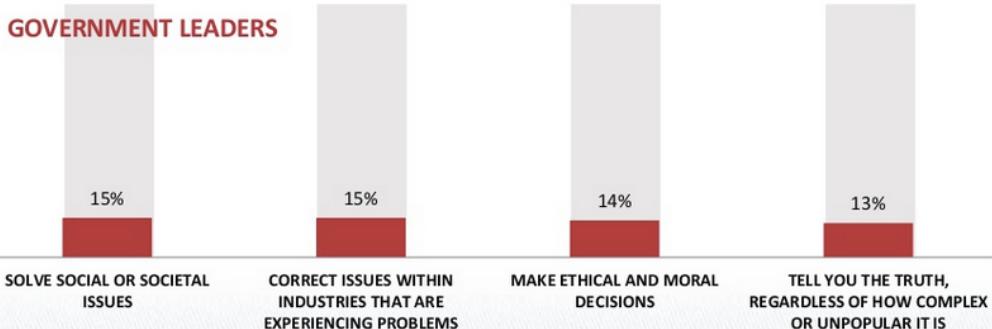
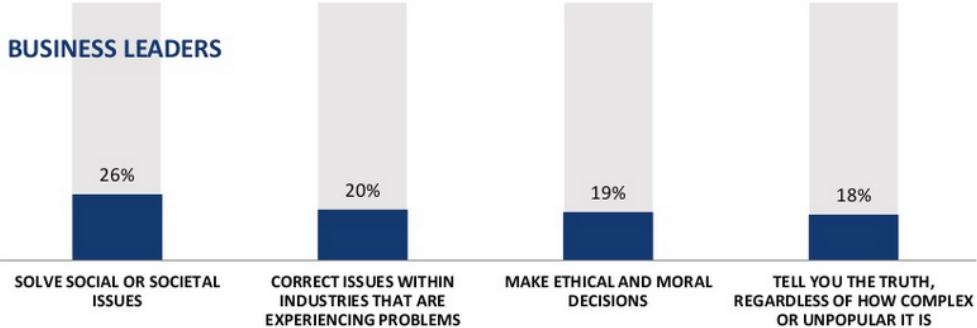
A composite screenshot showing two web applications. At the top is the OpenSpending interface, featuring a world map where countries are shaded in green and yellow to represent the density of government financial transactions. To the right, the text 'Mapping the money.' is displayed, followed by a subtext: 'Our aim is to track every government financial transaction across the world and present it in useful and engaging forms for everyone from a school-child to a data geek.' Below this is a search bar with the placeholder 'Search 16,604,629 government transactions in 358 datasets...' and a 'Search' button. The OpenBankProject interface is shown below, featuring a dark header with the project name and social media links. The main area contains the text 'Bank as a platform. Transparency as an asset.' and a description of the project's mission: 'The Open Bank Project is an open source API and App store for banks that empowers financial institutions to securely and rapidly enhance their digital offerings using an ecosystem of 3rd party applications and services.'



# Trust



## CRISIS IN LEADERSHIP – TRUST IN ETHICS AND MORALITY VERY LOW TRUST BUSINESS AND GOVERNMENT LEADERS TO DO THE FOLLOWING:



30 Q144A-147A. [SPLIT SAMPLE] How much do you trust business leaders to do the following? (Top Box- Trust A great Deal) General population across 26-country global total

# BUSINESS

The Washington Post  
with Bloomberg

In the News NSA Trayvon Martin 'Baby Veronica' Rolling Stone U.K. gay marriage law

AD

[Experian® Credit Check](#)

[www.experian.co.uk](http://www.experian.co.uk)

Get Your Credit Score Absolutely Free! Unlimited Access A

**Correction:** An earlier version of this story stated that lawmakers were proposing a winding down of Ginnie Mae. This is not the case. This version of the story has been corrected.

## Freddie Mac hopes to increase transparency with releases of raw mortgage data

By Abha Bhattarai, Published: June 9 [E-mail the writer ↗](#)

Five years after the national housing bust, Freddie Mac — the McLean-based entity that backs one-quarter of the country's mortgages — is hoping to become more transparent by standardizing its processes and making raw data more easily accessible to the public.

"The more data we have — on the borrower, the property and the loan — the less likely we are to have a blow up like we had in 2008," said Rob Lux, chief information officer of Freddie Mac.

[http://www.washingtonpost.com/business/on-it/freddie-mac-hopes-to-increase-transparency-with-releases-of-raw-mortgage-data/2013/06/09/f02c66ce-cd60-11e2-8f6b-67f40e176f03\\_story.html](http://www.washingtonpost.com/business/on-it/freddie-mac-hopes-to-increase-transparency-with-releases-of-raw-mortgage-data/2013/06/09/f02c66ce-cd60-11e2-8f6b-67f40e176f03_story.html)



# The Telegraph

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Women Men Motoring Health Property Gardening Food History Relationships Exp

Recipes Wine Wine Shop Healthy Eating Restaurants Pubs Food and Drink Picture Galler

HOME » FOOD AND DRINK » FOOD AND DRINK NEWS

## Tesco pledges to open up supply chain after horse meat scandal

Tesco, Britain's biggest supermarket, has pledged to give customers a detailed insight into its global supply chain in a bid to restore customer confidence after the horse meat scandal.



Philip Clarke, Tesco's supermarket chief executive Photo: AFP/GETTY

<http://www.telegraph.co.uk/foodanddrink/foodanddrinknews/9874854/Tesco-pledges-to-open-up-supply-chain-after-horse-meat-scandal.html>

# Discussion: impact?

In your teams discuss the potential impact for each of these trends for businesses and the role of open data?

- Access to the web
- Commoditisation of data
- Pervasive data collection
- Quantifying of personal data
- Demand for greater transparency



# Introducing ways to understand where open data fits into a business

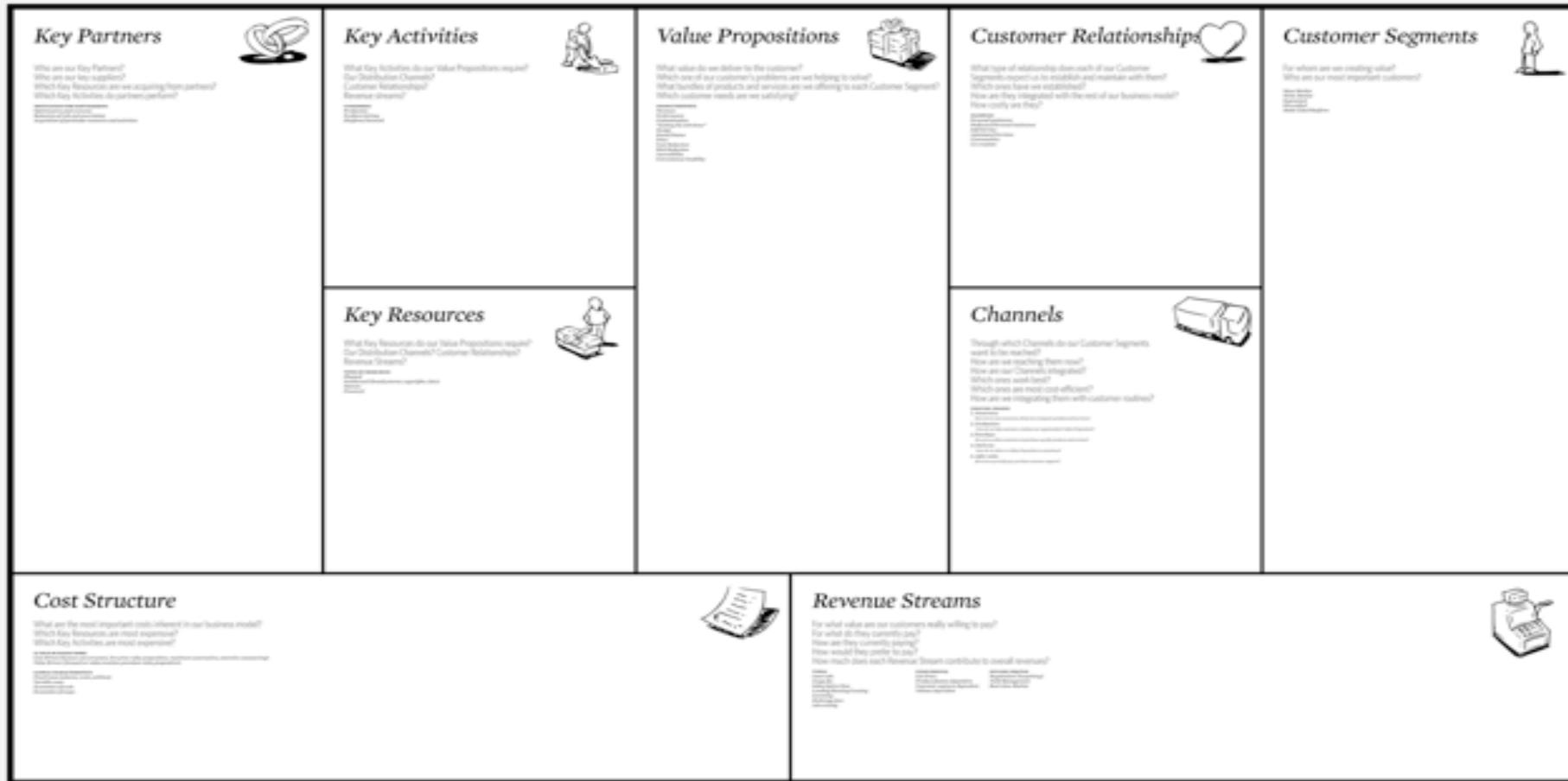


# The Business Model Canvas

Designed for:

Designed by:

Date: \_\_\_\_\_  
Duration: \_\_\_\_\_



# Exercise – part 1

In your teams assess the business model and where they use data, using the business model canvas for one of the following:

- Google
- Amazon
- British Gas
- BBC
- Marks & Spencer



# Lunch



# Nasa satellites are helping Electronic Arts slash its production costs

04 JANUARY 12 / by TOM CHESHIRE ↗

*It probably saved us 30 to 40 percent of the up-front cost of creating a mountain. And then it saved us a huge amount of work creating the surrounding vistas.*

*This article was taken from the January 2012 issue of Wired magazine. Be the first to read Wired's articles in print before they're posted online, and get your hands on loads of additional content by [subscribing online](#).*

Winter sports and open data? A gnarly combo -- but crucial to EA Sports' SSX snowboarding game. "We wanted 300 tracks," says Todd Batty, creative director of EA Canada. "The first reaction was: we'll need 300 artists. Of course we didn't have the budget for that." So EA turned to topographical information from Nasa's Advanced Spaceborne Thermal Emission and Reflection Radiometer (Aster), on board the orbiting Terra satellite. The dataset covers 99 per cent of the Earth's surface and is available as a free download.



# Innovation within established business

- Use of open data to facilitate new markets
- Open data to provide transparency to students – potentially universities
- New decision-making technologies
- Hybrid business model
- Subscription revenue

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News | Videos | Podcasts | About Which?

New tax year for you?  
Tax thresholds and allowances change today

Personal allowance increase among tax changes  
Our expert guide on tax rates and allowances



Which? Review  
Latest tablet reviews  
Does the Apple iPad rule the roost - or is there another tablet to knock off its crown? Find out with our reviews.

Which? member trial  
Sign up for £1  
From TVs and PCs to child car seats and cookers, access thousands of Best Buy products if you take out a trial.

Which? campaign  
Help change bank culture  
Are you tired of paying for the mistakes of irresponsible banks? Pledge your support to help change banking culture.

Which? Legal Service  
Our lawyers advise you  
Our lawyers are waiting to help you - whether you've had a problem with faulty goods or an unfair parking ticket.

Most popular

- ▶ Tablets
- ▶ LED, LCD and plasma TVs
- ▶ Laptops
- ▶ Digital cameras
- ▶ Washing machines
- ▶ Vacuum cleaners
- ▶ Printers
- ▶ Dishwashers
- ▶ Sat navs
- ▶ Child car seats
- ▶ Which? Local

# Exercise – part 2

Where are the opportunities for  
your chosen business to use  
open data?



# Publishing open data needn't be about revenue streams

Saving money, supply chains, energy usage, salaries, operations data, behaviour change, exhaust data

Tate Modern

home about blog feedback login

Powered by CARBON CULTURE

### About this building

Tate Modern is the home of Tate's collection of international modern and contemporary art. Formerly Bankside Power Station, designed by Sir Giles Gilbert Scott and built in two phases between 1947 and 1963, Tate's transformation of the Power Station began in 1995. A steel framework was built within the existing walls of the Power Station to create the seven gallery floors. This framework also supports the existing brick façade of the building. The architects were Herzog & De Meuron. Since it opened in May 2000, more than 40 million people have visited Tate Modern.

### Our energy use



Tate Modern

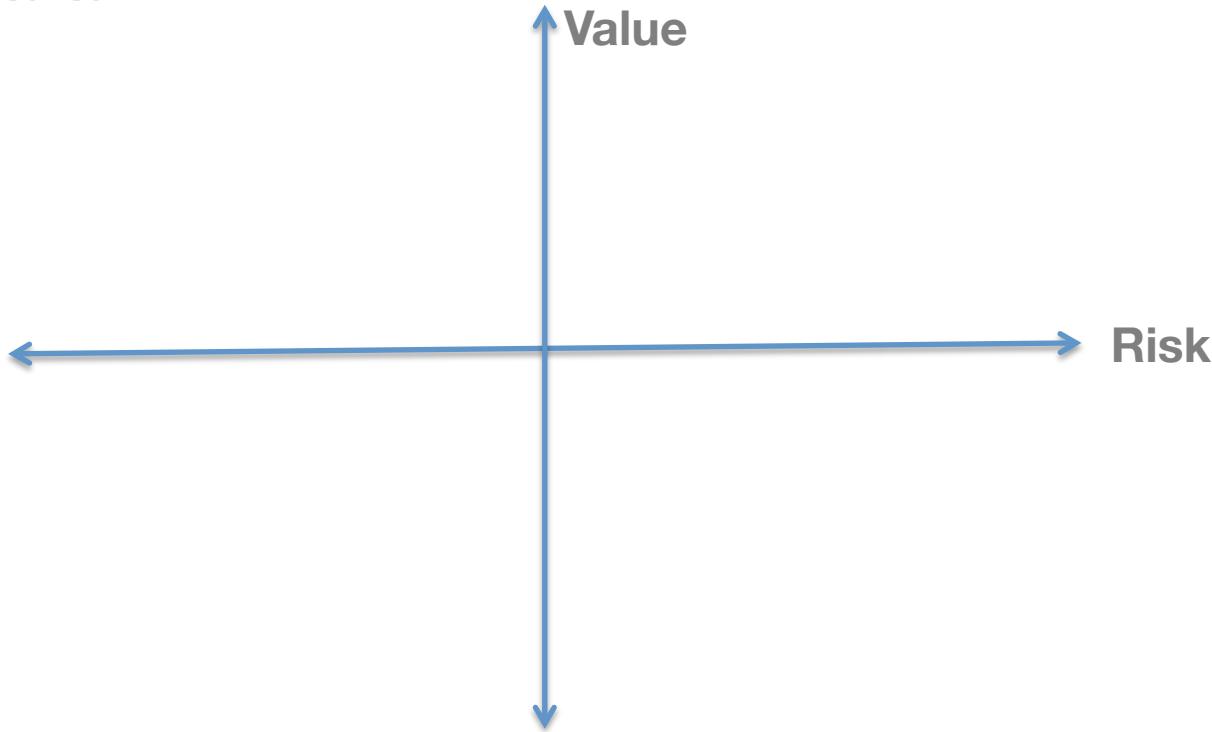
This graph allows everyone to access a range of data from Tate Modern. It's generated daily from data collected every half hour from the on-site meters.

For the week commencing midnight on 11 Mar, Tate Modern has used:

277,436 kWh Energy use Average 1,651kWh per hour	£22,139 Energy cost Average £131 per hour	145,548kg Carbon impact Average 866kg per hour
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# Business modeling opportunities for publishing open data



# Exercise – part 3

Using your previous work and the value/risk matrix, identify where your chosen company might publish open data – and why.



# Open data specific businesses and models

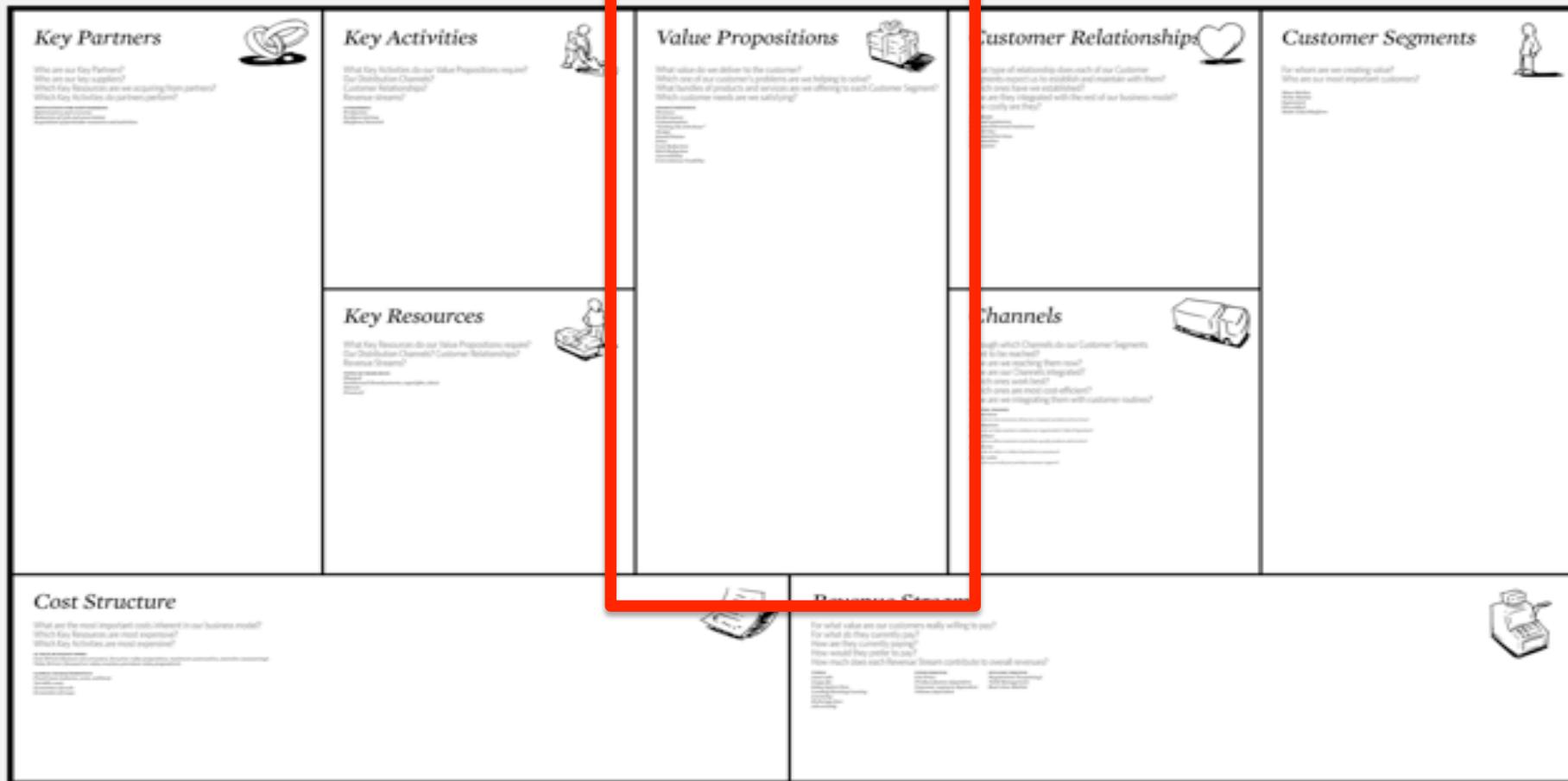


# The Business Model Canvas

Designed for:

Designed by:

Date: \_\_\_\_\_  
Duration: \_\_\_\_\_



# Value proposition

Open data is **free** - value no-longer comes from data itself, but products and services – **added value** developed for the market

Ease

Newness

Performance

Customization

“Getting the job done”

Design

Price

Client cost reduction

Risk reduction

Accessibility

Brand



# Revenue streams

Asset sales

Usage fee

Freemium

Licensing

Subscription fees

Consultancy services

Direct advertisements

Donations (social enterprises)



# Adding services and ease to existing data and resources

The website features a header with the OpenCage Data logo, navigation links for pricing, about, case study, samples, faq, and a contact button. A Twitter follow link (@opencagedata) is also present. The main content area includes the text "OpenStreetMap data" and "when you want it, in the format you want it", along with a "find out more" button. A watermark at the bottom right credits the photo to Alexander Kachkaev CC BY-SA 2.0.

OpenCage Data

pricing   about   case study   samples   faq   contact

Follow @opencagedata

OpenStreetMap data  
when you want it, in the format you want it

find out more ▾

Photo © Alexander Kachkaev CC BY-SA 2.0

# Climate Corporation



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Agents

Sign In

READ OUR GUIDING PRINCIPLES ON DATA AND PRIVACY BY DAVID FRIEDBERG, CEO OF THE CLIMATE CORPORATION

## CLIMATE | BASIC

**Better Data. Better Decisions.**

The most advanced way to get insight into your fields.



Weather



Tracker



Alerts



Scouting & Notes

LEARN MORE »

CLIMATE | BASIC

CLIMATE | PRO

CROP INSURANCE

CLIMATE | BASIC

<http://www.climate.com/>

Sold to Monsanto for an announced for \$930m but estimated to be actually \$1.1 billion.



# Best Buy opens up their product data

Open data on stock availability, location, pricing

User reviews on products

Mobile phone upgrade data

‘Freemium’ data

 **BBYOPEN**  
REMIXING THE WORLD'S LARGEST CE RETAILER

[HOME](#) [API PROFILES](#) [DEVELOPERS](#) [APPLICATION GALLERY](#) [BLOG](#) [FORUM](#) [CONTACT](#) [SOLUTIONS](#)

The BBYOpen team is currently hiring for some newly created roles on our team. If you are interested in joining a start-up team within a well established company like Best Buy, take a look at the jobs, and submit your resume. Check out our Jobs posting on the lower right corner of the home page. Thanks.

## **BBYOPEN = FUTURE READY RETAIL**

Open Development - We are a group of developers, technologists, geeks and idea people who have been thinking about how access to data is changing the future of retail.

What is Open? A simple description of APIs.

**A DECK OF CARDS CAN BE MORE THAN A GAME**



Explore Our Different API's

See how OPEN data puts customers in control. We create connections for all devices, platforms, channels, technologies and third parties; those that exist now and those that will exist in the future. We are not limited by technology; we are inspired by it.

Developers Start Building

See the various API's that we are working on and that enable things like: real-time access to customer questions/answers, product specs, reviews, ratings, hyper-relevant offers and more.

Inside Open (Coming Soon)

We are makers at heart. Come back soon to check out the things that we are tinkering with these days.



# Benefits?

**Recycle:** Much government, industry and NGO data remains abundant, yet **redundant** – social costs

**Economy:** Expensive to collect data – collection, processing

**Innovation:** Open data can be used to create new products and services and **value** – monetary, **efficiency**, transparency

**Outside innovation:** Others can add value to your data

**Efficiency:** Data accuracy can be **checked** and **scrutinised**



# Discussion

Opportunities for using open data



# How are SMEs and startups using and creating services with open data?