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Diverse UK companies are working with open data

Fri Sep 9, 2016

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Many different types of companies in the UK are harnessing the benefits of open data.

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Many different types of companies in the UK are harnessing the benefits of open data

*We identified and analysed 270 companies that use, produce or invest in open data as part of their business, using desk research, surveys and interviews about their experiences. The open data companies we studied have an **annual turnover of over £92bn**, and over **500k employees** between them. This shows the scale of open data's potential value in business.*

This section explains our findings that UK open data companies vary by location, age, industry and size; there is not one single model that defines a UK open data company.

You can explore our findings on business strategies, the kinds of open data that companies use or produce, the challenges they face in doing so and some real-life company examples of open data innovation in sections to the right on this page.

What is open data?

Open data is data that anyone can access, use and share. For data to be considered ‘open’, it must be published in an accessible format, with a licence that permits anyone to access, use and share it.

What is an open data company?

We define an open data company as one that uses, produces, or otherwise invests in open data as a key aspect of its work. It could be a data publisher, making data open for others to use. It could be a user, creating services with open data made available by other platforms. Or it could be an enabler, training or advising others in how to work with open data.

Open data companies are distributed across the UK

UK companies do not need to be small, agile startups located in the tech communities of East London to engage with open data. Our research revealed that open data companies are located across Scotland, Wales, Northern Ireland and all regions of England.

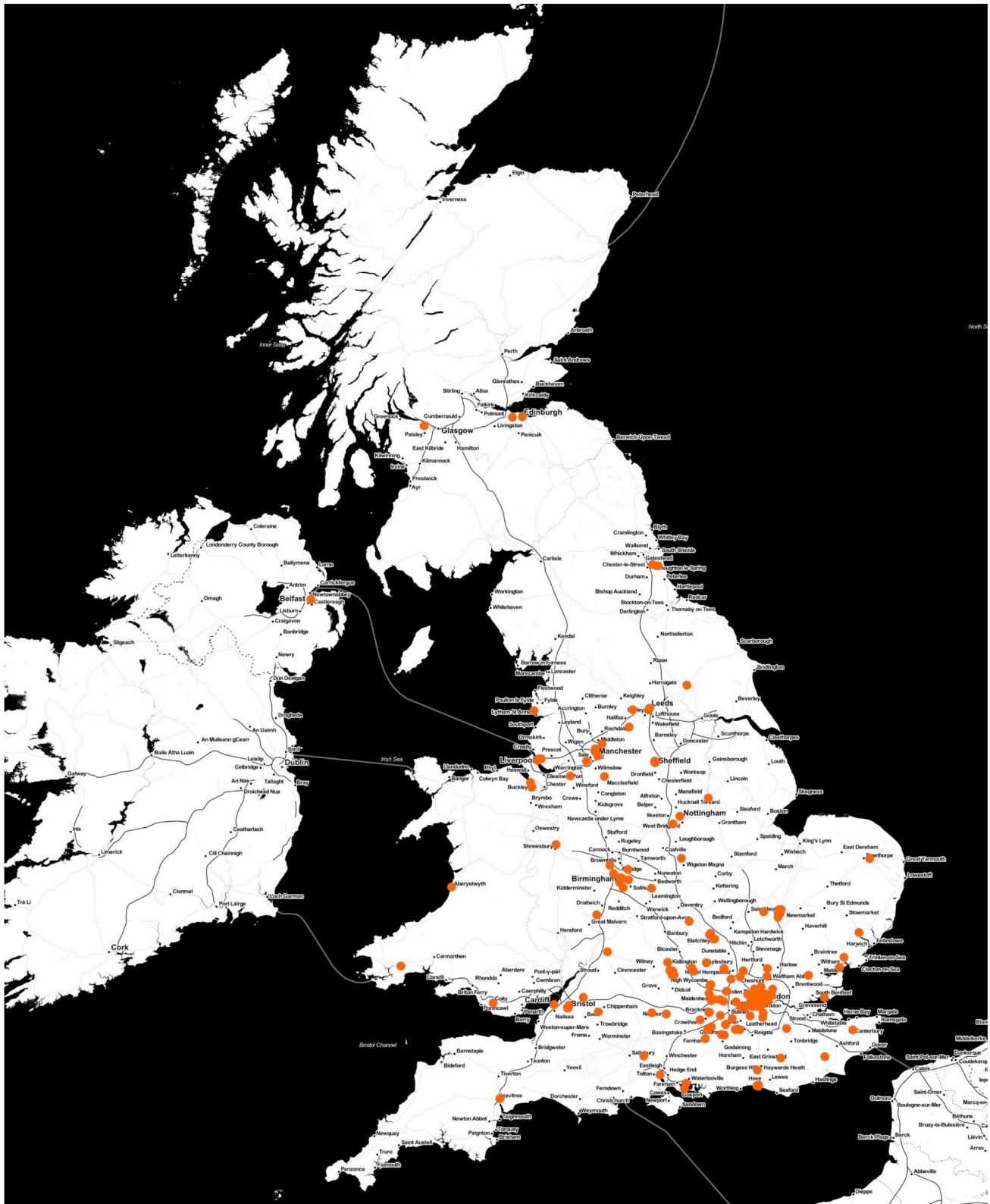


Figure 1.1: Map showing the location of 270 UK open data companies determined by main trading address, where available (223 companies), otherwise by registered company address (47 companies).

Region	UK open data companies	UK companies
London	51% (139)	17% (372340)
South East	18% (49)	16% (339980)
East	7% (20)	10% (217620)
North West	5% (14)	10% (206815)
West Midlands	5% (14)	8% (171750)
South West	3% (9)	9% (201150)
Yorkshire and The Humber	3% (9)	7% (150725)
East Midlands	2% (5)	7% (145290)
Wales	2% (5)	4% (87685)
Scotland	1% (3)	7% (151115)
North East	1% (2)	3% (56425)
Northern Ireland	<1% (1)	3% (66685)
Total	100% (270)	100% (2167580)

Table 1.1: Location of 270 open data companies by country and region (based on ONS regions as defined in the National Statistics Postcode Lookup). Locations determined by main trading address where available (223 companies), otherwise by registered company address (47 companies). Frequencies shown in brackets. UK companies frequencies from ONS UK Business: Activity, Size And Location - 201.

While open data companies are located across all parts of the UK, the distribution between regions is uneven. Some of this skew can be attributed to the distribution of companies more generally, but not all. For example, around half (51%) of the open data companies identified are located in London (compared to 17% of all businesses based on ONS figures). We can look more closely at these companies by mapping their distribution across the capital.

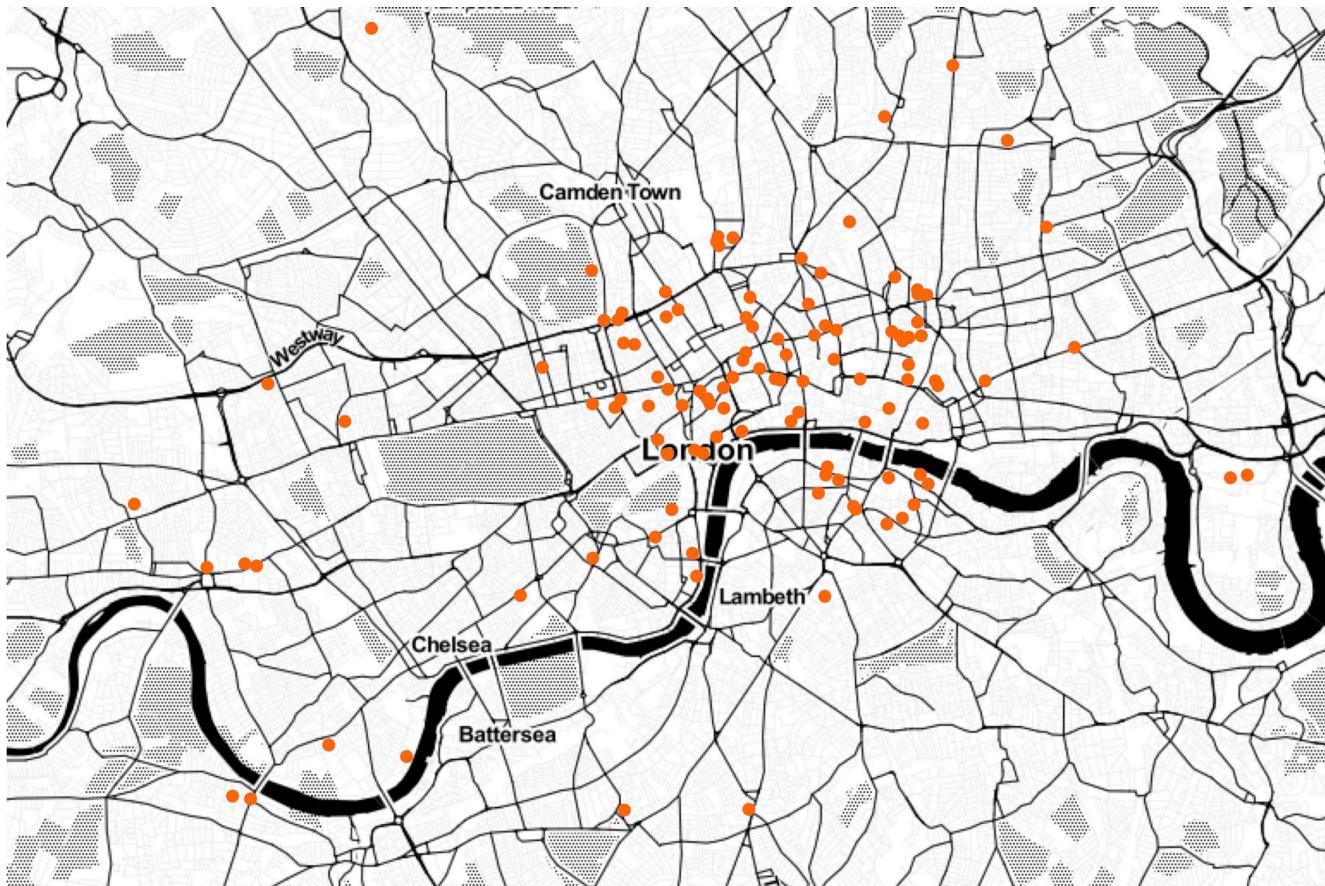


Figure 1.2: Map showing the location of 139 London-based open data companies determined by main trading address, where available, otherwise by registered company address.

Open data companies are spread across London, covering 19 boroughs. For a full breakdown of companies by borough, please see [Appendix Table A1.1](#). The highest concentrations of these companies in individual boroughs can be found in Camden and Westminster (both 17%). More than one quarter (26%) are based in the boroughs of Hackney and Islington combined. This can likely be attributed to the East London technology cluster around Old Street roundabout, which is located on the border of the two boroughs. This cluster represents 13% of all open data companies in the UK. So while open data companies are evidently not exclusively a ‘Silicon Roundabout’ phenomenon, they have a disproportionately high presence in this area.

UK companies old and new are investing in open data

Open data companies in the UK vary in age, as revealed through analysis of their incorporation dates.

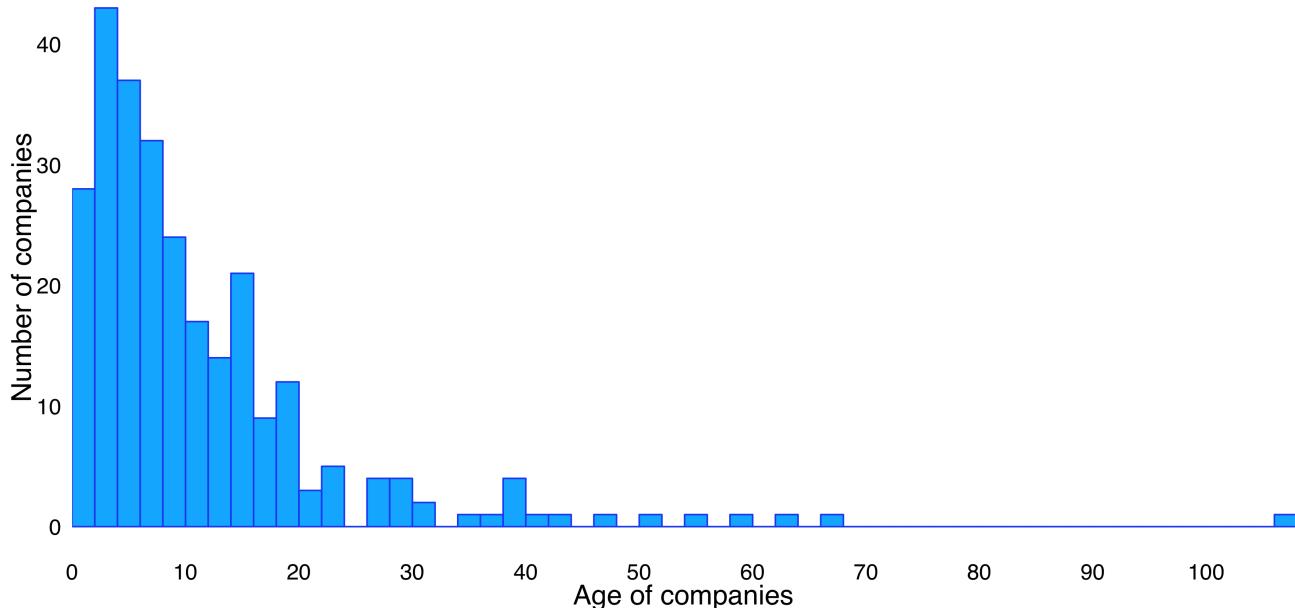


Table 1.2: Age of UK open data companies by incorporation date. Frequencies shown in brackets. UK companies frequencies from ONS UK Business: Activity, Size And Location - 2013.

Age	UK open data companies	UK companies
Less than 2 years	10% (28)	17% (364405)
2 to 3 years	16% (44)	13% (274765)
4 to 9 years	34% (92)	26% (568710)
More than 10 years	39% (106)	44% (959700)

Open data is not the sole domain of startups and young companies – only about a quarter (26%) of open data companies are less than 3 years old. The median age for a UK open data company is eight years, with just over a third of companies (34%) between four and nine years old. When this is considered alongside the 39% of companies that are more than 10 years old, it becomes clear that open data can be leveraged by well-established companies as well as recent startups. In fact, the oldest identified open data company is over a century old.

UK companies across a range of industries are using open data

Open data companies in the UK are operating in a wide variety of 13 industries. We can use UK Standard Industrial Classification (SIC) codes to determine which broad industry groups they operate in.



Figure 1.5: Industry classification of "other industry" category in Figure 1.4

Broad industry group	UK open data companies	UK companies
Information & communication	54% (148)	8% (165,500)
Professional, scientific & technical	21% (56)	17% (366,110)
Business administration and support services	11% (29)	7% (143,250)
Arts, entertainment, recreation and other services	5% (13)	7% (145,600)
Education	2% (6)	2% (34,845)
Finance & insurance	2% (5)	2% (45,550)
Public administration & defence	1% (4)	<1% (5,320)
Health	1% (3)	4% (89,440)
Production	1% (3)	6% (136,215)
Construction	1% (2)	12% (257,430)
Retail	1% (2)	9% (187,560)
Transport & storage (inc postal)	<1% (1)	3% (67,485)
Wholesale	<1% (1)	5% (103,010)
Agriculture, forestry & fishing	0% (0)	7% (143,855)
Accommodation & food services	0% (0)	6% (128,925)
Property	0% (0)	4% (79,885)
Motor trades	0% (0)	3% (67,600)

Table 1.3: Industry classification of UK open data companies and all companies by ONS broad industry group. Frequencies shown in brackets. UK companies frequencies from ONS UK Business: Activity, Size And Location - 2013 (Table B1.1).

Companies we identified operate in 13 out of the 17 broad industry groups recognised by the ONS. Over half (54%) of the open data companies operate in the **information and communication** industry. This is notably larger than the 8% of all UK companies in this industry, which was to be expected given the focus of this research.

Professional, scientific and technical activities made up over a fifth (21%) of all open data companies. A further 11% of open data companies are in the category of **business administration and support services**. The remaining ten industries each have a relatively small amount of representation. According to the SIC industry classifications of broad industry groups, open data companies were not

represented in agriculture, forestry & fishing, accommodation & food services, property or motor trades.

While the SIC industry classifications are able to provide a picture of the industries in which open data companies operate, they do have some limitations. Given the system was first designed in the 1940s and the codes were last updated in 2007, it may fail to effectively capture emerging industries and technologies.

A second issue to be considered is that SIC codes may not accurately denote the industry which open data companies work in. For example, companies that provide open data products and services may be classified under information and communication, even though they provide the majority of their products and services to specific industries, such as ‘Agriculture, forestry & fishing’, ‘Accommodation and food services’ or ‘Property’. This explains the zero frequencies shown in the table for these broad industry groups, despite the presence of companies such as Syngenta, FoodTrade and Illustrists in this study.

UK companies large and small are using open data

Micro, small, medium and large enterprises are working with open data. Using our survey data, we can closely examine the size of these companies, in terms of number of employees.

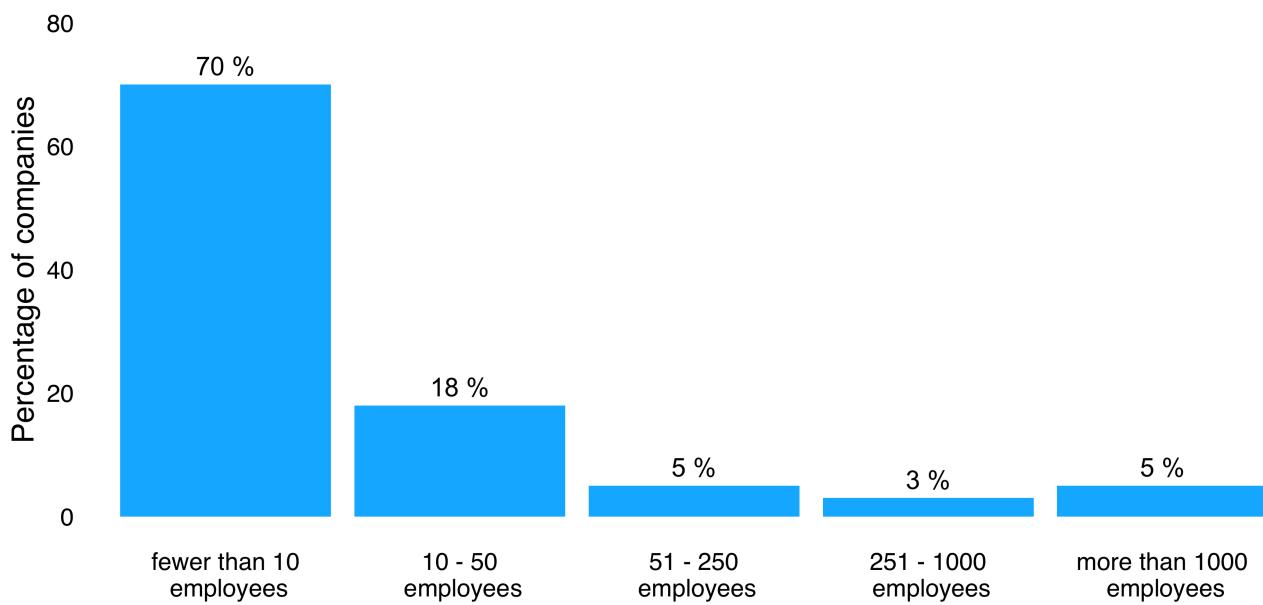


Figure 1.6: Responses to the question "What is the size of your company?" (n=79)

Number of employees	UK open data companies	UK companies
fewer than 10 employees	70% (55)	88% (1912450)
10 - 50 employees	18% (14)	10% (209710)
51 - 250 employees	5% (4)	2% (36505)
251 - 1000 employees	3% (2)	<1% (8915)
more than 1000 employees	5% (4)	

Table 1.4: Responses to the question "What is the size of your company?". Frequencies shown in brackets (n=79). UK companies frequencies from ONS UK Business: Activity, Size And Location - 2013 (Table B1.2).

UK open data companies vary in size, from those with fewer than 10 employees to those with more than 1000. The majority (70%) of these companies can be defined as micro-enterprise companies (with fewer than 10 employees). Small- and medium-sized businesses (SMEs), with between 10 and 250 employees, make up the majority of the remaining companies (23% of all companies). This is not to say that larger companies are not also well-represented. In fact, 8% of responding companies are large or enterprise sized, in having 251 or more employees. The findings in this section tells us that open data can benefit diverse companies at some level, regardless of their location, age, sector or size. The following sections focus on business strategies, the kinds of open data that companies use or produce, the challenges they face in doing so and some real-life company examples of open data innovation.

How to cite

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How UK companies are using open data to innovate

Fri Sep 9, 2016

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Our research demonstrates that UK companies are using open data to create new products and develop new business models, and that this is taking place across diverse company types and sizes.

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Open data startups: forming new businesses based on open data

Open data startups are emerging micro enterprises formed to explicitly exploit the benefits of open data. Often this comes in the form of a new product or service which depends on open data to exist. Across a range of industries the open data startup community are critical disruptors, challengers and innovators.

We identified a number of open data startups that are focused on impact other than purely economic i.e. social and environmental. For example, FoodTrade does not just consume open data to develop its allergen compliance tool; it also aspires to redesign the food system in a more sustainable way:

“

“Transparency is a failure of the food system at the moment. So there is a great opportunity for an open data revolution to come in and disrupt the food system.

FoodTrade want to be the Wiki of the food system. We want to make market intelligence open to people so that they could then help themselves and start trading with each other. Our goal, from the start, was to make the food system sustainable and responsible.”

– Ed Dowding, FoodTrade

SMEs: diversifying product portfolios with open data

Our research has identified a number of cases of established SMEs using open data to diversify their product and service offerings.

For example, GeoLytix offers data analytics services to large retailers. Open data enabled the company to both create a distinctive brand in a market dominated by large enterprises, but also develop a new line of unique data products that clients can purchase for their internal analytics operations:

“We started to create open data products in order to provide better quality data analytics to our customers. Especially smaller companies that didn’t have the capacity to build these datasets on their own. We realised that being a data consultancy is a profitable line of work. As a small for-profit company, open data products allow us to build reputation in our sector and expand our customer base, but also contribute back to the ecosystem and help improve the quality of open data.”

– Sarah Hitchcock, GeoLytix

Similarly, Shoothill, a company specialising in marketing campaigns for the creative industries, started developing open data products when commissioned to integrate data from the Environment Agency in web-based street maps. This initial project led to a product line based on flood alerts, including GaugeMap which has been recognised for its innovative and easy-to-use visualisations based on open data. Entering the open data ecosystem enabled Shoothill to build expertise in handling environmental data and develop new consulting services around it:

“A lot of people have seen our flood maps now. Our brand is a brand that they can trust. We have establish an area of expertise. We’re good with environmental data, we know what we’re doing, we’ve got a lot of experience in it. People are engaging with us to build systems that use either part or some of this data or mix it with other data

sets, to come up with something useful. This has become quite a big part of our business.”

“

– Rod Plummer, Shoothill

Mime Consulting, a boutique consultancy in the educational sector, shows how open data products can help companies to grow their customer base within their sector and reach new customer segments:

“

“Open data helped us raise awareness of the importance of data-driven decisions guiding post-GCSE educational choices. It also enabled us to gain access to more schools and local authorities that wish to explore the possibilities offered by open data.”

“

– Steve Preston, Mime Consulting

Large companies: embracing open data

Arup are demonstrating how a big company can embrace open data. The company, in the context of its digital Arup services for the built environment, uses open data for the development of products and services offered to their clients.

One such example is The Hazard Owl, Arup’s Risk Information Action System. By using real-time natural hazard information from public feeds, the system alerts clients of natural disasters to initiate risk mitigation and business continuity plans.

Arup not only embed open data in their technical infrastructure; they also use it as a tool to improve engagement between citizens and city leadership.

“

“Arup is now moving to the next level: how to develop technical architectures to make this data flow? How do you set up in a city or at a city scale, architectures and standards that allow the reduction of cost and friction but also respect privacy and trust issues around data? And I think the open data framework again is one of the key methodologies to do that.”



– Volker Buscher, Arup

How UK companies work with open data

UK companies play a range of different roles when it comes to open data, and our research reveals a number of these.

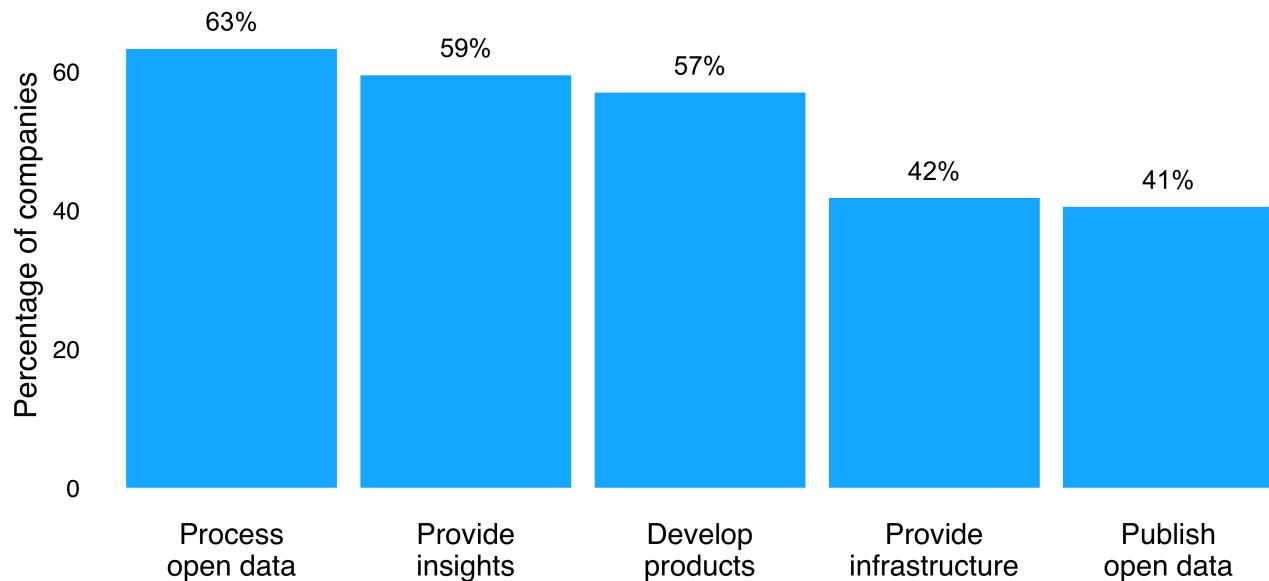


Figure 2.1: Responses to the question "How does your company currently use open data?" See Appendix Table A2.1 for a table of responses including frequencies. (n = 79, multiple responses allowed)

Nearly two thirds of companies surveyed (63%) are processing open data, unsurprising given that open data quality is often a key concern for businesses. Almost as many companies are developing products using open data (59%) and providing insights based on open data (57%).

Fewer companies are providing open data infrastructure (42%). This may reflect the dynamic that in most contexts there are fewer infrastructure providers than users of their infrastructure. A sizeable number of companies responding to the survey are publishing open data (41%), which is consistent with our findings that government and the public sector is not the sole source of open data.

These open data roles do not appear to be exclusive pursuits. Indeed, we found that over three quarters of respondents (79%) were carrying out two or more of these functions.

Business approaches to open data products and services

When it comes to pricing for open data products and services, open data companies are using a variety of different methods. In fact, over a quarter (28%) of companies indicated they were using two or more mechanisms of the mechanisms described below, either for the same or different open data offerings.

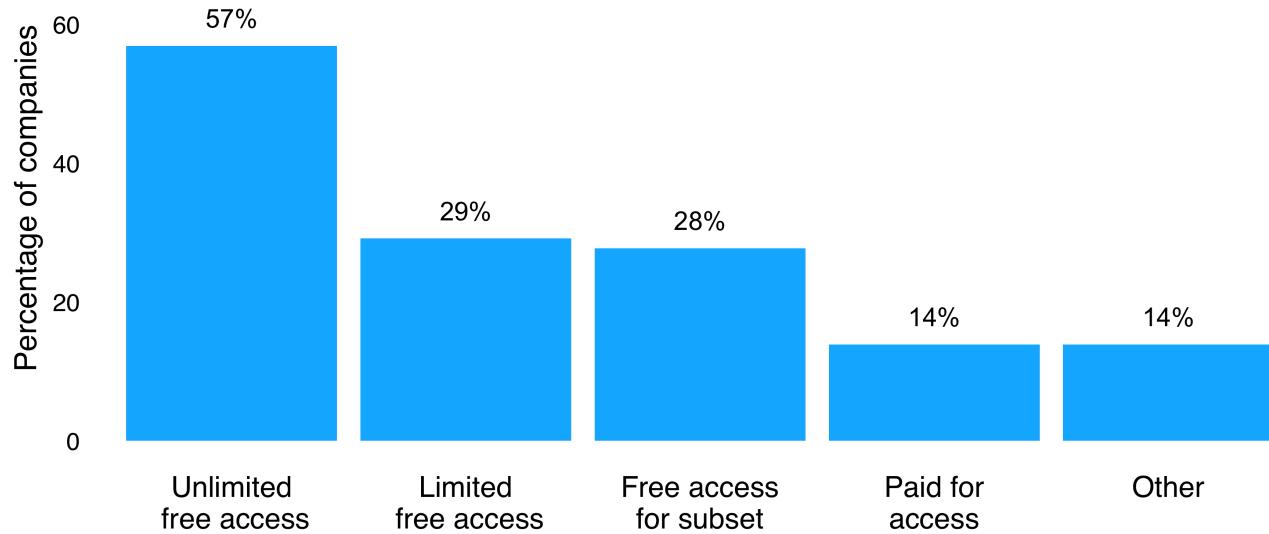


Figure 2.2: Responses to the question "Which pricing mechanism(s) does your company use for its open data products and/or services?" See Appendix Table A2.2 for a table of responses including frequencies. (n = 72, multiple responses allowed).

The majority of respondents (57%) are providing products and services which give unlimited free access to everyone. The reasons for doing so vary for particular companies and for particular products. One key driver identified by interviewees is the role open data offerings can have in attracting customers to companies' other products and services.

“

“It's better to give some of it away and use it to convert customers.”

”

– Ian MakGill, Spend Network

Over a tenth of companies (14%) provide free access to a subset of users. This can be another means by which to attract and retain customers.

“

“We intend to make the core features of Skills Route accessible for free by schools and their students. We've found that when you get your product into people that like it, they're your best salespeople. We know there is a demand for this; it is about raising awareness, and developing a good product that meets a clear need.”

”

– Steve Preston, Mime Consulting

In addition, over a quarter of companies (28%) are providing rate or volume limited access to their open data offerings, indicating the adoption of freemium pricing models for open data products and services, as in many other areas of the digital economy.

Almost a third of respondents (29%) provide only paid for products and services. Companies offering paid for consultancy services may explain the prevalence of this model. In addition a number of companies explicitly stated that their pricing was dependent upon the client.

The findings in this section indicate that UK open data companies, collectively, are adopting a wide variety of commercialisation approaches. Further research is required to more thoroughly understand the specifics and benefits of various business models when applied to open data products and services.

The other sections in this report focus on the range of companies investing in open data, the kinds of open data that companies use or produce, the challenges they face in doing so and some real-life company examples of open data innovation.

How to cite:

Please cite this report as: Open Data Institute (2015) Open data means business: UK innovation across sectors and regions. London, UK. Available at [open-data-means-business-uk-innovation-sectors-regions](https://www.opendatainstitute.org/research/open-data-means-business-uk-innovation-sectors-regions)

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Open data that drives business

Fri Sep 9, 2016

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UK companies are using government and non-government open data from a wide range of sectors.

Open data that drives business

UK companies are using government and non-government open data from a wide range of sectors

The UK is ranked top of 86 countries by the [Open Data Barometer](#), which measures a country's readiness to secure benefits from open data, its publication of key datasets and evidence of emerging impacts from open government data.

The UK's central repository of public sector open data, [data.gov.uk](#), contains nearly 15,000 datasets published with an [Open Government License](#). Substantial open data resources are also published by non-government sources, such as nonprofits and community groups.

Uses of government open data

A large proportion (70%) of companies that responded to our survey use open data provided by government.

Survey respondents were also asked to list the government datasets used in their companies. In total, 25 different open data sources were named, spanning central and **local government** and other **public sector bodies**, with numerous examples given of specific datasets. Many companies listed multiple datasets, with some stating that they used too many to list for the purposes of the survey. [Appendix Table A3.1](#) summarises the survey responses on this topic.

[Ordnance Survey \(OS\)](#) was cited most frequently (27% of companies) as an open data source. OS is Britain's national mapping agency and a member of the [Public Data Group](#). It has [operated as a government-owned company since 1 April 2015](#).

Companies also use open data related to local regions. Local and regional government (listed by 18% of companies) and the Department for Communities and Local Government, a ministerial department concerned with community policy

(listed by 14% of the companies), are sources of open datasets that companies use recurrently.

Other sources of open government data listed frequently include the **Department for Transport** and related bodies, the **Office for National Statistics** (ONS) and **Companies House**, which were listed by 20%, 18% and 14% of respondent companies respectively.

Uses of non-government open data

Almost half (49%) of the surveyed companies use open data from non-government sources such as **businesses**, **nonprofits** and **community projects**.

The companies we surveyed were asked to list the datasets they use from non-government sources. Appendix Table A3.2 summarises the responses. Together, they named 14 different sources, and listed a variety of different datasets within them.

Use of **open geographic data** is particularly popular amongst those companies that listed specific open data sources in their responses. OpenStreetMap, an openly licensed map of the world created by volunteers – with extensive annotations available as open data – is used by 24% of these companies.

Companies also use open data from various **non-governmental, international projects**, generally developed by communities of members seeking to make large quantities of data available for widespread use. Projects such as DBpedia, geonames, Wikimapia, p-lei.org, DMOZ, OpenCorporates and OpenCharities are all cited as sources of open data used by the companies.

Transport-related data sources are also popular. These include Traveline, the Association of Train Operating Companies (ATOC), the General Transit Feed Specification (GTFS), the National Aeronautics and Space Administration (NASA) and the National Air Traffic Services (NATS).

We can identify how companies use a combination of government and non-government open data by looking at those that responded to both of the above questions. Appendix Table A3.3 summarises these combined responses.

The most number of respondent companies (39%) use open data from both government and non-government sources, although only a tenth (10%) are using non-government open data exclusively. This may indicate the importance of the role of government in the open data ecosystem, as a publisher of data to support development of new products and services, and as the driver of policy interventions related to open data and innovation.

It is important to note that around a fifth of respondents (21%) stated that they were not using data from either type of source, which could represent those companies

that solely provide infrastructure and/or publish open data and do not make use of it themselves.

What types of data do companies use most

When describing the open data they use, companies were able to select multiple sectors. Their responses show that data from a wide range is being used.

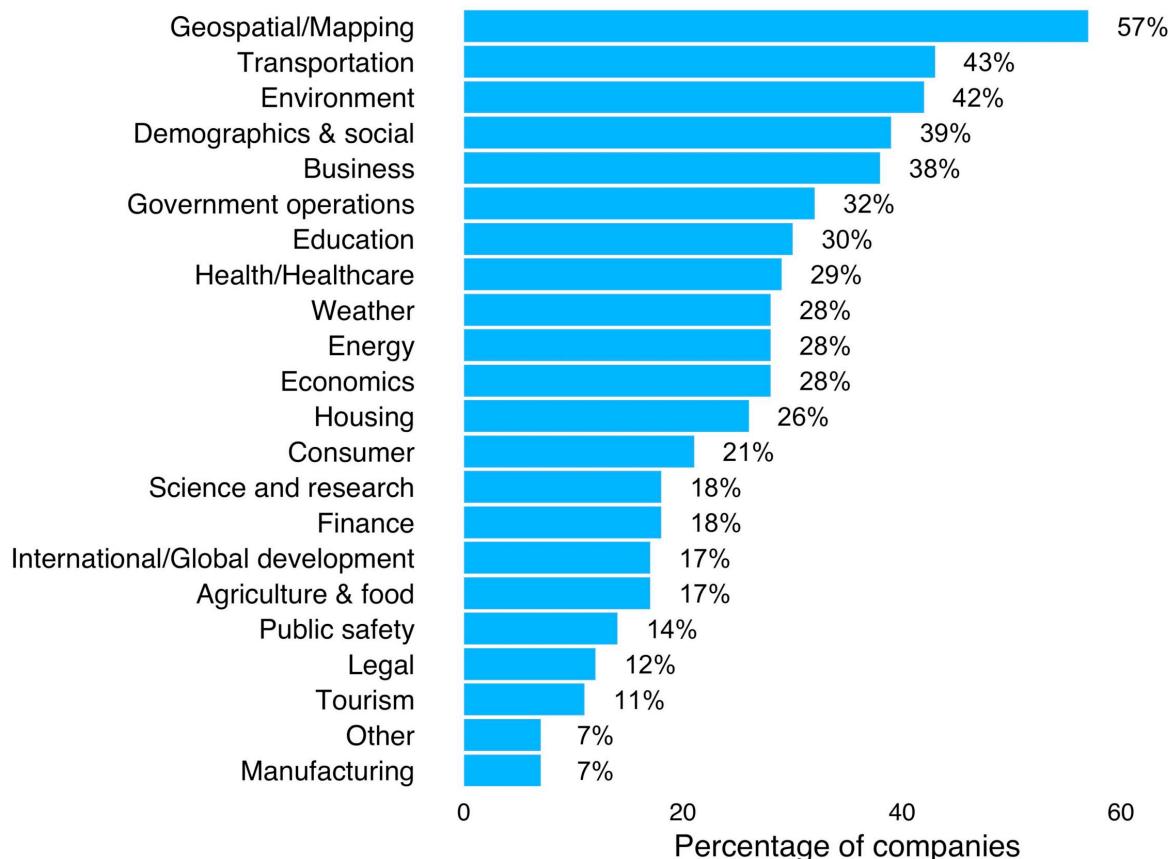


Figure 3.1 - Responses to the question "What types of open data does your company use?" (n=76, multiple responses allowed). See Appendix Table A3.4 for a table of responses including frequencies.

Geospatial/mapping open data is used by more than half (57%) of all respondent companies. Several other types of open data are used by more than a third of respondents, namely **transportation** (43%), **environment** (42%), **demographics & social** (40%) and **business** (38%) data. Respondent companies often use open data from **multiple sectors**. In fact, 79% of companies use data related to more than one sector and 14% of them use data related to more than 10. The mean and median number of data types by sector used by companies is 4.75 and 4 respectively. These usage statistics, combined with detailed statements made by the companies interviewed, suggests that **commercial value** can be drawn from combining open datasets.

“

“How do we make money? Well, people are engaging with us to build systems that use [...] this [Environment Agency] data or mix it with other datasets, to come up with something useful. So it's become quite a big part of our business.”

– Rod Plummer, Shoothill

”**“**

“The data was siloed. You couldn't search across multiple company registers, you couldn't search for directors across multiple jurisdictions and you couldn't combine the information from those registers together. We felt that the need was essentially to create a single unified interface to all of this data, allowing it to come together. Insight generally comes from combining more than one dataset together. As each dataset becomes available as open data, the opportunities for taking that and coming up with completely new business models, and new ideas about what's possible, are tremendous.”

– Chris Taggart, OpenCorporates

”**“**

“Individual datasets? Yes they are accessible, but individual datasets by themselves don't really add that much value. It's only when you combine it, you clash things together, that you start seeing some value coming out of it.”

– Clifford McDowell, Doorda

”

Companies could select ‘other’ for data they felt was not covered by the prescribed list of sectors, and to name those they used. They listed sectors like ‘3D’, ‘crime’, ‘Internet of Things’, ‘jobs data’ and ‘political’. These responses not only further reflect the wide breadth of open data use by sector, but also open data use in combination with other emerging technologies. For example, the development of

widespread 3D printing capabilities and the growth of Internet of Things networks will raise new questions about the potential of open data. Companies in the UK are beginning to address these questions.

“

“You could have a situation where we are building a silo of data around, say, Camden or something, but actually there are so many use cases that need to be fulfilled. If you don't have an easy data exchange, the industry is not going to grow. The reason why the web has taken off is because we got rid of the silos. I think for Internet of Things the same thing needs to happen in order to [have the same] explosion.”

– Yudit Stanton, OpenSensors.io

”

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Challenges for open data companies

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Data quality and licensing terms are critical factors for companies using open data.

Challenges for open data companies

Data quality and licensing terms are critical factors for companies using open data

In our survey, we asked companies to rate how far eight issues, or characteristics, influence their use of open data. These issues were derived from an assessment of open data publishing best practices, based on the Open Data Certificates – a set of standards designed to help make open data easier to find, share and use.

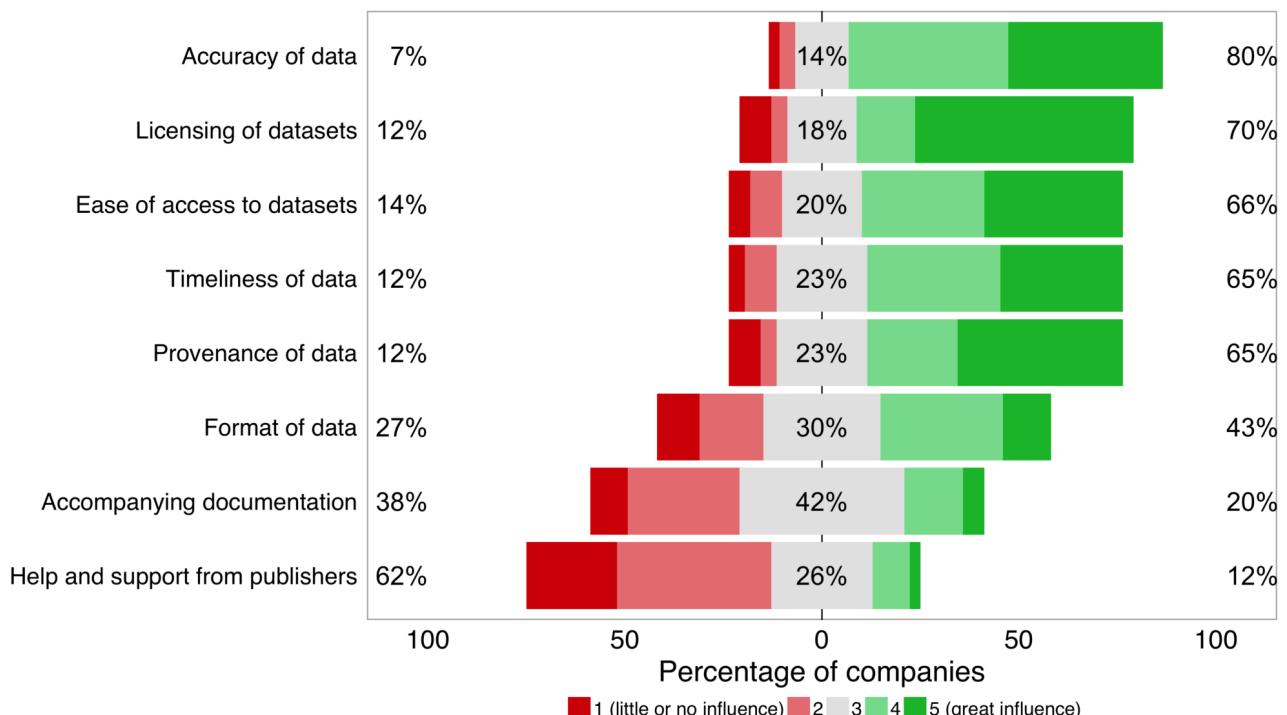


Figure 4.1 - Responses to the question "Please indicate the extent to which each of the following issues influence your company's decision to use open data." (n=74) (Note that the percentages for 'Accuracy of data' sum to 101% due to rounding.) See Appendix Table A4.1 for frequencies.

The eight issues appear to have varying levels of influence on a company's decision to use open data. We provided a free-form response field so companies could elaborate on these and share further insights. The responses were mapped against the eight prescribed issues and are quoted throughout the discussion below.

Accuracy

Many companies that responded (80%) found accuracy of data important, with 39% of companies saying it had great influence on their decision to use open data.

Example responses (related to accuracy of the data) to the question “If you wish to elaborate on any of these issues, please do so”:

“

“Pricing is not an issue as long as the data is of great quality (accuracy) and desirable.”

”

“

“There is little or no benefit to the user if they do not trust that the data is accurate and up-to-date.”

”

The **data accuracy** issues shared by companies through their survey responses and in-depth interviews fall into two categories: i) **inaccuracies and quality issues with the data itself**, and ii) **significantly varying quality and presentation of similar data** between different publishers, such as government spending data by department.

Some of the main issues companies raised around data accuracy were that **data can be collected or presented inconsistently, and often it is not granular enough**. Regarding crime data, for example:

“

“The second [issue] is changes in the data – [the police] keen on tinkering with what they should include in it. A

case in point being our local authorities have a 101 incident, which is [classed as being] anti-social behaviour. So if you see a burnt-out car, or someone's done graffiti, or

someone's dumped a mattress in the street, it's antisocial behaviour but it's not a criminal offence.

The local authorities catch incidents and they give that information to the police. The police could very easily break that down, and that could be easily mapped and presented back to you as a citizen. But they just group it all under 'anti-social behaviour' and refuse to release that information."

– Clifford McDowell, Doorda

“

Other accuracy issues highlighted by companies surround the **various different standards for data collection and publication**, which cause problems when combining data from multiple sources:

“

"We take data from over 330 different publishers [...] not one of them does the same thing as the next one and most of them don't do the same thing month to month. I've got 170 councils in our dataset [...] Some publish virtually nothing, some publish a lot. The variance in quality of the data is incredibly difficult. Data quality is a big issue.

– Ian Makgill, Spend Network

”

Licensing

An open licence is one that enables anyone to access, use and share data, including companies who can use it to develop commercial products and services.

Over half (55%) of the companies said that the way that datasets are licensed had a great influence on their decision to use data. Only 8% suggested that licensing had little or no influence.

Example response (related to licensing of the data) to the question "If you wish to elaborate on any of these issues, please do so":

“

"Licensing terms of the dataset should include commercial

use.”

“

The UK Open Government Licence is the required licence for use by all central government departments and agencies publishing open data and its use is encouraged for local authorities and other areas of government.

The Creative Commons public domain licence (CC0) and attribution licence (CC-BY) are commonly used open licences for non-government data, and, similarly to the UK Open Government License, allow for commercial reuse of the data. The Creative Commons attribution and share-alike licence (CC-BY-SA) is also used, but may limit a company's ability to use that data for commercial products and services by requiring them to also attach the same open licence to the data they derive.

Timeliness, provenance and accessibility

Companies indicated that data timeliness, provenance and access also influence their decision to use open data, with 31%, 42% and 35% of them citing it as having great influence, respectively.

Example responses (related to the timeliness, provenance and ease of access to the data) to the question “If you wish to elaborate on any of these issues, please do so”:

Timeliness of data

“

“There is little or no benefit to the user if they do not trust that the data is accurate and up-to-date.”

“

“

“Ideally [data] has scheduled updates (e.g. OpenStreetMap every 60 seconds)”

“

Provenance of data

“

“Provenance is vital unless you can independently verify.”

“

Ease of access to datasets

“

“It is notable that public data stores are ordinarily presented as ‘separate’ from corporate web pages, such that open data of relevance to specific policy objectives and/or services do not appear in the same place to promote awareness of them and/or facilitate ease of access for non-technical users.”

“

“

“The current ‘improvements’ being implemented at government level has hindered much of our work due to data moving [and] data links often not working.”

“

Timeliness of data is discussed more by some of the companies interviewed in-depth. In particular, companies would like data to be published with as little delay as possible, often driven by the need to combine datasets, which are more timely:

“

“We use [claimant data from the Office of National Statistics] and we compare that with the number of [job] vacancies that we observe on Adzuna. I would say that one frustration, which you may have heard from other sources as well, is the timeliness of that data. In particular, the ONS data is effectively a month or two (or possibly even longer) out of date before it gets made available. I appreciate some of the reasons why there is a delay, but it does feel like there is scope for reducing some of that delay. That’s one of the biggest limitations that we see because obviously our data, due to the nature of our business, is very much real-time. At any minute of the day

we can see exactly how many job adverts we've got and what the average salaries are, whereas there's this quite big lag between data being collected by the ONS and the publication of that data."

– James Neave, Adzuna

"

"

"I very much run as a stream, I have to constantly flow with data. I want to constantly be as fresh as possible. Albeit some datasets may only be released once a year, but it's enough for some people so you can do direct comparison year on year. But if you're just dropping in random bits of data, it's not a lot of use to people, it's got to be a constant flow so you can map trends and compare the previous activity and so on."

– Clifford McDowell, Doorda

"

Data provenance relates to its source and the way it has been collected, used and modified. Clear data provenance helps users to understand the context around the open data, and allows them to use it with confidence. For example:

"

"We provide clear, unambiguous data with provenance, so we say where we got it from and when we got it. That sort of thing is quite hard to get in the business information world and we do it in an effective, efficient way that is more effective and more efficient than the companies getting it themselves.

People are wanting to combine data together and that lack of provenance really makes the data much less useful.

– Chris Taggart, OpenCorporates

"

Open data being **difficult to access** was another issue raised by the companies. This is generally down to many different sources of open data, including websites, data stores and portals:

“

“There’s no central data point [...] I know you have the Cabinet Office website, data.gov.uk, but you have to monitor that [...] There’s lots of local websites and there’s the Land Registry as well. There’s also Police.co.uk, there’s many other areas where data is being sent out. Again that’s all released in different ways in different formats. A lot of companies don’t even know about the demographic data, or the social economic data, that’s available. So it’s as much about market intelligence as it is about making that data accessible.”

– Clifford McDowell, Doorda

”

“

“That’s another problem, if there’s too much [data], you can’t find it. There [are] different places to find different bits, you’ve got data.gov, you’ve got all these different websites, all these different agencies. They’ve all grown organically and separate from each other and I know everybody would love one enormous data place where you go to get all your data. The trouble is if that site isn’t really good, you’re never going to find it.”

– Rod Plummer, Shoothill

”

Data formats, accompanying documentation and support from publishers all have less of an impact on whether or not companies use open data.

Responses regarding the data formats did, however, reveal a variety of opinions on this topic. These particularly relate to the provision of open data in computer-accessible and machine-readable formats, via an Application Program Interface (API), for example, or in linked data form.

Example responses (related to the format of the data) to the question “If you wish to elaborate on any of these issues, please do so”:

“

“Data need to be in a computer readable format. The format type does not matter.”

“

“

“Access to data via an API (of whatever sort) is usually a big advantage for us.”

”

“

“There are a number of reference datasets that we wish the UK public sector would provide in linked data form. If they did, we’d use them a lot.”

”

“

“Has to be processable using opensource tools”

”

“

“Has to be complete datasets i.e. not stuck behind a sparql endpoint”

”

The companies didn't choose to elaborate on the issues of accompanying documentation or help and support from publishers, which also have relatively low influence on the decision to use open data.

This may be an artefact of the employees who responded to the survey on the behalf of their companies, many being technology specialists and/or working closely with open data. Those with expertise may not need help and support from publishers or accompanying documentation.

Other challenges

A further challenge surrounding the use of open data – which wasn't addressed explicitly in the eight issues discussed – was revealed when the companies were

asked to describe whether they had previously used open data but stopped.

This challenge concerns the **continuity of open data publishing**. Some companies said the open data that they had previously used to develop a product or service had not been updated or had become unavailable.

Example responses (related to the continuity of data publishing) to the question “If your company has previously used open data in particular products and/or services but ceased to do so, could you please describe why?”

“

“Still use old version but, for example, VisitEngland no longer appear to maintain their list of tourist attractions.”

”

“

“– because, the map was produced as a ‘one off’ and wasn’t updated.”

”

“

“There is a long way to go before we get real open data from government – many requests are treated as FOIs not data provision. All work with Gov data is fragile as you cannot guarantee that the following year a different data officer won’t take a different view as to what will be realised and why.”

”

The responses describe issues surrounding **discontinuous publishing**, particularly by government. Companies describe how data they used was produced as a one-off and not maintained as an ongoing release. The usefulness of Freedom of Information (FOI) requests, and the data they may release, to companies in the UK is also questioned:

“

“The biggest issue [with open data] is someone could just stop providing a dataset. That’s the biggest problem. So if someone comes awry or it just gets taken away, I can’t end

up forcing them to release datasets, that's the biggest problem.

If I was to [make] a Freedom of Information request, that would be a one-off and within a few weeks would pretty much become useless to people."

– Clifford McDowell, Doorda

“

The **need for more open data** to be published by government is a common issue raised by companies interviewed. Companies discuss in detail what kinds of open data could be used commercially, with two distinct themes emerging from the interviews.

The companies suggest that there is still more work to be done on the part of government to release open data. The partial release of spend statements and other transaction data by publicly-funded entities, such as the NHS, is a challenge for companies developing products and services. This partial release, and subsequent demand for more open data to be published, can result from inconsistencies in publishing across government entities, or incompleteness of the data they do publish. For example:

“

"I don't mind inconsistency in the publishing [of the open data]. What is really problematic is not publishing at all. For example, nearly half of the NHS doesn't have to publish spend statements because they're supposed to be independent of central control. Localism shouldn't be used as an excuse to create a democratic deficit, and when I say not publishing, that could be about sub-quality data as well as no data. There's a difference between dirty data, where we can extract it if we work on it, and data that doesn't have information. So give me a six months of transactions without any dates, that's no use. We can't work with that. So that's the first challenge, getting useable data."

– Ian Makgill, Spend Network

“

“

"The future of open data is in the hands of governments because what we're talking about, for the most part, is

core public data that was always meant to be part of the public record but that over the last 10 or 20 years has turned into something that they sell. I think that the UK has led the world in this and is now starting to genuinely reap benefits from this, in terms of both innovation and in internal processes. Governments, particularly those governments that sign the Open Data Charter, need to follow that through otherwise all the things they talked about to do with transparency, better governance, innovation and so on, will not come to fruition. I think if we want those things, if we want good governance, if we want transparency, if we want a healthy democracy and if we want innovation, then open data is an absolute requirement because all of those statutory core datasets are essential to this.”

– Chris Taggart, OpenCorporates

“

“

“Open data needs to go more local. I think [government] needs to start getting some pressure applied on [local councils]. Where are the public toilets? Some release [that data] some don’t.

[Data about] how tall [the trees are], about the local parks, about dogs being caught, anti-social behaviour incidents, social housing, planning applications, a request for a new planning application [and] why it’s been rejected – all this should be freely available online in a standard format, so you, as a citizen, can just tap in instantly and see what’s happening. If data was more freely available we would be even more adult about how we engage with government.”

– Clifford McDowell, Doorda

“

Companies also describe how the release of more open government data could realise **commercial opportunities** by enabling them to **develop better or new products and services**:

“

“The open data portion of Companies House information is

quite good but it is a little bit limited and it would be useful if they could make more of it publicly available.
It would be valuable for us because we'd be able to provide more information about employers for our users so

that, say you click on a particular job advert on Adzuna, you could for example see that [...] the employing company is Tesco. Then, if we were able to get the information from Companies House open data, we could have a more detailed page of information about Tesco talking about, for example, the total size of the business, number of staff, turnover, revenue and profit over the last few years. I believe that only some of that interesting information is currently available through Companies House open data."

– James Neave, Adzuna

”

“

"Transparency is good but I think a more interesting aspect [of public sector data release] is when you can use that data to make better decisions [...] to either improve the way that somewhere is governed or to make better use of limited money"

– Bill Roberts, Swirrl

”

You can find a summary of open data issues that could be addressed by government to continue to drive innovation in our conclusion and recommendations.

How to cite

Please cite this report as: Open Data Institute (2015) Open data means business: UK innovation across sectors and regions. London, UK. Available at [open-data-means-business-uk-innovation-sectors-regions](https://theodi.org/article/research-open-data-means-business-pg4/)

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Examples of UK companies using open data

Fri Sep 9, 2016

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How are UK companies working with open data?

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How are UK companies working with open data?

In this section we highlight 12 companies that use or produce open data as part of their work in different ways. From **smart city planning to flood warnings, job opportunities to education options**, the companies use open data to offer diverse services to businesses, government and individuals.

Arup

Arup uses open data to help plan smart cities and mitigate against risk and natural disasters in the built environment.

Arup is a multinational professional services firm of designers, planners, engineers, consultants and technical specialists. It provides engineering, design, planning, project management and consulting services for the built environment.

Open data is an important part of Arup's work with smart cities and the technology

that supports them. Arup has developed policy frameworks that focus on the role of

<https://theodi.org/article/research-open-data-means-business-pg5/>

that supports them. Arup has developed policy frameworks that focus on the role of open data to **deliver new, better or more efficient services in cities**, while responding to decreasing public sector budgets. Arup incorporates open data as part of the technical architecture required to overcome constraints in cities such as traffic and congestion, and improve engagement between citizens and city leadership. The company has developed a **risk information action system**, The Hazard Owl, which uses real-time natural hazard information from public data feeds. It is used to alert clients of natural disasters so they can mitigate against risk and help to protect their business.

Arup also sees open data as an increasingly meaningful source of information for the analytics and advisory services it provides.

Website: arup.com

Twitter: [@ArupGroup](https://twitter.com/ArupGroup)

Headquartered: London, UK

Company size: Large

Number of employees: 11,355

Annual turnover: £1,048,276,000

Adzuna

Adzuna simplifies the job hunting process by helping users better understand the market and find the best jobs for them.

Adzuna is a search engine that aggregates job adverts to provide a comprehensive view of the jobs market. It combines adverts from several hundred different online sources, including the largest online job boards and vacancies advertised directly by employers. This **gives job hunters access to over 1 million job adverts** at a given time.

Adzuna uses open data to develop its Job Index, which provides an accurate, complete and timely view of the UK jobs market. The Job Index compares Labour Market Statistics (Jobseeker's Allowance Claimant Count), published by the Office for National Statistics, with Adzuna's jobs data to generate new metrics such as jobseekers per vacancy by location. These are reported in its monthly Job Market Report, which can be used by job hunters to **compare the availability of jobs in different areas of the country**.

The company also provides free access to its jobs data via an application program interface (API). The aim is to allow third-parties to reuse the data aggregated by Adzuna to power job-search services in their websites and develop new applications.

Website: adzuna.co.uk

Twitter: [@Adzuna](https://twitter.com/Adzuna)

Headquartered: London, UK

Company size: Small

Number of employees: 10-50

Doorda

Doorda uses open data to help citizens and businesses discover and understand what is happening on their streets and in their local communities.

Doorda is a startup company that specialises in bringing together different open government datasets into a single online map. This enables citizens to **access, understand and engage with public information** on their local area.

Doorda aggregates open data from a number of different sources, including Ofsted, the Land Registry, the Food Standards Agency, the NHS and the Home Office.

Citizens can use it for a number of different purposes. These include **searching for properties, locating schools, understanding road safety, identifying crime and anti-social behaviour hotspots, comparing restaurant hygiene and accessing local news.**

The company also specialises in making open data accessible and useful to businesses and government in unique, innovative ways. Through access to the Doorda API, users can work with vast quantities of open data to develop new commercial understanding of an area. Doorda also provides advisory services for businesses, enabling them to investigate the availability of wider open data relevant to their interests and create bespoke data solutions to provide local, national and international insights.

Website: doorda.com

Twitter: [@Doorda](https://twitter.com/Doorda)

Headquartered: London, UK

Company size: Micro

Number of employees: fewer than 10

FoodTrade

FoodTrade maps the food supply chain system to help people buy and sell fresh produce, contributing to the creation of a fair, sustainable and local food system.

FoodTrade is an online food platform that **brings together local food producers and consumers**. Producers, such as small farmers, restaurants or individuals, can feature their produce and map their supply chains to find new consumers and collaborators. Consumers can also use its search tools to find producers and sellers of various different types of food.

FoodTrade has enrolled more than 1,600 businesses into its platform to date, and has facilitated more than 1,300 connections between them and other users. As a result, FoodTrade can **map supply chains and promote transparency within the food sector**, in which most supply chain data remains closed.

FoodTrade recently launched FoodTrade.Menu, an automatic allergen labeller that uses open data from the Food Standards Agency. It can be used by restaurants and caterers to ensure their menus comply with allergen regulations. The menu data can then be fed into the FoodTrade platform to **create ingredient lists and link users with local suppliers** based upon the ingredients they need. FoodTrade will then make this extensive menu, produce and marketplace data available to the public through open APIs.

Website: foodtrade.com

Twitter: [@foodtradeHQ](https://twitter.com/foodtradeHQ)

Headquartered: Bristol, UK

Company size: Micro

Number of employees: fewer than 10

GeoLytix

GeoLytix combines geospatial data with domain expertise to help people make better decisions about the location of their businesses.

GeoLytix is a specialist geospatial data and consultancy company. It offers a wide range of products based on geospatial data, such as **maps, boundary data and points of interest**, as well as analysis, **training and consultancy services** to develop new commercial insight.

A number of the company's geodata products are based on open data from sources such as Transport for London (TfL), the Land Registry, the Department for Education, the Department for Health and OpenStreetMap. GeoLytix develops them by processing and **adding new value to existing open datasets** or by creating new, novel ones using open data. These data products can be purchased off-the-shelf with transparent licensing terms.

GeoLytix also releases a selection of its geodata products as open data. These include processed census data, a snapshot of postal sector boundaries, a subset of retail places, workplace data and manually geocoded supermarket locations.

GeoLytix also develops **complex, bespoke models to help business solve their location challenges.**

Website: geolytix.co.uk

Twitter: [@Geolytix](https://twitter.com/Geolytix)

Headquartered: London, UK

Company size: Micro

Number of employees: fewer than 10

Mime Consulting

Mime Consulting uses open data to enable students and their families to make informed decisions about their educational choices and career paths.

Mime Consulting is a data consultancy company. It offers a range of management

~~MIME Consulting is a data consultancy company. It offers a range of management information services including data warehousing, analysis, visualisations and dashboard design. It also offers user-friendly software and website design to help automate data collection, analysis and reporting.~~

The company has developed Skills Route, a platform designed to **help young people make informed choices regarding their education**. Skills Route combines students' chosen subjects, grades and location with open data to provide personalised **university, further education and employment options** available in the future. It also shows how these choices can influence their career paths and future remuneration for their work.

Skills Route's projections are based on open data published by the Department for Education. Specifically, it uses the Level 3 value-added dataset (L3VA), which

captures the progression of students between Key Stage 4 education and the end of their Level 3 qualification (which includes A-Levels and vocational equivalents). It also uses other open data from the Higher Education Statistics Agency (HESA) and the UK Commission on Employment and Skills (UKCES) to ensure that it shows students the full range of further and higher education opportunities.

Website: mimeconsulting.co.uk

Twitter: [@SkillsRoute](https://twitter.com/SkillsRoute)

Headquartered: London, UK

Company size: Micro

Number of employees: fewer than 10

OpenCorporates

OpenCorporates makes information about companies and the corporate world more accessible, discoverable and usable for citizens and businesses.

OpenCorporates is the **world's largest open database of company information**. It has collected data for over 84 million companies from over 100 jurisdictions and aims to record a **URL for every corporate entity in the world**. Users can search the database for a particular company or browse companies by jurisdiction, to identify characteristics such as company type, trading status, incorporation date, registered address and company directors.

OpenCorporates aggregates data from a number of different sources, often through automated scraping of web pages and PDFs. Sources include national company registers, government websites, national information centres, official company filings, gazettes and data released under the Freedom of Information Act.

Access to OpenCorporates' data is enabled via an API, and reuse of the data is governed by an Open Database Licence with share-alike and attribution clauses. This requires users to publish their work back to the open data community as open data. Those who wish to use the data without the share-alike restrictions, or API rate and volume limits, can do so under commercial licensing agreements.

Users include journalists, governments, major credit reference agencies and

anti-money laundering organisations, which use the data to better understand, monitor and regulate companies around the world.

Website: opencorporates.com

Twitter: [@opencorporates](https://twitter.com/opencorporates)

Headquartered: London, UK

Company Size: Micro

Number of employees: fewer than 10

OpenSensors.io

OpenSensors.io provides an Internet of Things (IoT) platform that helps users create smart products and services to build better connected systems and environments.

OpenSensors.io offers smart products and services such as **real-time data access, data security and storage, analytics and machine learning** via its IoT platform.

OpenSensors.io's real-time messaging engine can process millions of messages a second from any internet-connected device, such as a sensor or camera.

Businesses can use the platform for many purposes – from automating huge networks of car parks through licence plate recognition cameras and motion sensors to optimising office spaces by configuring devices such as thermostats, lights and locks to respond to the preferences of the people working in them.

Anyone using the Opensensors.io platform to publish data can use it for free, providing their device publishes their work as open data. As a result, the platform provides **access to valuable real-time and historical open data generated in thousands of projects** and their connected devices. This enables other individuals and businesses to use the data to experiment, innovate, research and incorporate it into their own products and services.

Website: opensensors.io

Twitter: [@OpenSensorsIO](https://twitter.com/OpenSensorsIO)

Headquartered: London, UK

Company size: Micro

Number of employees: fewer than 10

Shoothill

Shoothill creates visuals and tools to convert geospatial and statistical data into dynamic, accessible information on flood risks.

Shoothill is a software development company that specialises in **data visualisation and online mapping**. It currently offers three mapping products that can be used to understand and reduce the risk of flooding in the UK, based on open data provided by the Environment Agency.

Shoothill's FloodAlerts product is an online graphical representation of flood warnings, which provides localised updates to **keep users informed about flooding in their area**. Shoothill's GaugeMap is a live map of river levels, based on data from 2,400 river level monitoring gauges and is updated every 15 minutes. Each gauge is assigned a Twitter account for local citizens to follow, which tweets snapshots of this data twice every day. Users can also visualise flood risks and calculate the risk of flooding to their property by river or sea, using Shoothill's Check My Flood Risk.

Shoothill also provides access to selected Environment Agency data through APIs, which enable others to develop new products and tools using the data. This

includes the Flood Data, River & Tidal Levels, Groundwater, River Flow and 3-Day Flood Forecast datasets.

Website: shoothill.com

Twitter: [@Shoothill](https://twitter.com/@Shoothill)

Headquartered: Shrewsbury, UK

Company size: Small

Number of employees: 10-50

Spend Network

Spend Network helps the public sector to spend more efficiently and helps suppliers to compete for public sector contracts.

Spend Network is an innovative startup using public sector spending data to develop new products and services. It aggregates public sector spending, tender and contract data for the UK and EU from around 330 different sources, collected through government websites, APIs and Freedom of Information requests.

Access to Spend Network's data is provided via an API, which contains information on the spending between UK public sector organisations and their suppliers for over 30 million transactions, worth over £878bn. Typical services for businesses include **spending and contracting data analysis to forecast tender pricing** and timelines. Spend Network also helps the public sector to **understand its spending patterns and identify inefficiencies in the procurement process**.

The company plans to launch a procurement pipeline product for public sector organisations. The pipeline will visualise spending patterns in the public sector and alert potential suppliers to contracting opportunities, helping them to better prepare for and win public sector contracts.

Website: www.spendnetwork.com

Twitter: [@SpendNetwork](https://twitter.com/@SpendNetwork)

Headquartered: London, UK

Company size: Micro

Number of employees: fewer than 10

Swirrl

Swirrl helps organisations organise and publish their data using open standards that ensure it can be accessed and used by others.

Swirrl is a small technology company that provides open data publishing solutions to **make data easy to find, understand and reuse**. Swirrl's PublishMyData platform is used by public and private sector groups to publish and manage their data online in structured, machine-readable forms.

Swirrl helps publishers to meet open standards from the World Wide Web Consortium (W3C). It **creates custom browsing and discovery features**, such as visualisations and applications, to **ensure complex data can be used by non-technical users**.

Swirrl also provides **training, consultancy and custom support services**, to help organisations better understand how to unlock the benefits of open data. The company plans to release new features for both publishers and users to enable data to be used more easily, and to help **develop smart cities** with its open data expertise.

Website: swirrl.com

Twitter: [@swirrl](https://twitter.com/swirrl)

Headquartered: Stirling, UK

Company size: Micro

Number of employees: fewer than 10

TransportAPI

TransportAPI unifies transport data from key industry sources to help individuals and businesses to create new transport-related products and services.

TransportAPI is a transport solutions platform that seeks to create a **single, comprehensive source of UK transport information**. It consolidates timetables, routes, live running and performance history information for a wide range of transport types, including cars, buses, trains and bicycles.

Open data from a number of sources is aggregated into Transport API's unified platform, accessible via an API. These sources include Transport for London (TfL), the Department for Transport, Network Rail, Traveline and OpenStreetMap. Access to the API is based on the usage rate required by the user, with free access provided for limited use and different commercial packages available to users with more advanced requirements.

Businesses can use Transport API's accurate, detailed and timely transport

data for a range of commercial purposes, from advertising to journey planning. It has fostered a network of over 1,100 developers and organisations that work with the data to create apps and other services.

Website: transportapi.com

Twitter: [@TransportAPI](https://twitter.com/TransportAPI)

Headquartered: London, UK

Company size: Micro

Number of employees: fewer than 10

Note: Company sizes are based on the European Commission's Directorate General for Enterprise and Industry's [classification of enterprise categories](#).

How to cite

Please cite this report as: Open Data Institute (2015) Open data means business: UK innovation across sectors and regions. London, UK. Available at open-data-means-business-uk-innovation-sectors-regions

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Conclusions & recommendations

Fri Sep 9, 2016

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This study has demonstrated the breadth and depth of business use of open data.

Conclusions & recommendations

Conclusions

This study has demonstrated the breadth and depth of business use of open data. The 270 open data companies we looked at ranged from startups to established companies, from micro-businesses to large enterprises, and came from every corner of the country.

Some companies, such as Arup and Spend Network, are using open data to help them understand their markets, to build new products and services, and to give them an edge over their competitors. Others, such as Swirrl and TransportAPI, are finding a new market opportunity in providing the tools that help others to benefit from open data. Innovators, such as Syngenta and GeoLytix, are adding value to their business by publishing open data that everyone can benefit from.

Our research shows early evidence of the **economic, social and environmental benefits of open data** beyond the new and existing businesses that it enables. Adzuna uses open data to **help job hunters find appropriate work**. Mime Consulting draws on open data to help **students make informed choices about their education** and career choices. Shoothill provides visualisations and tools based on open data to give a better **understanding of the risk and impact of flooding**.

These companies are the first movers in a growing ecosystem. Our study reveals that they are still predominantly technology companies, and focused in London. As the utility of available open data grows, and as its potential is recognised, we expect these biases to break down further. The diversity that this study has revealed illustrates the potential for **organisations of all shapes and sizes to work with open data**, not only for their own benefit, but **for the benefit of our economy, society and planet**.

Our future research will aim to deepen our understanding of the nature and scale of the value created by open data by quantifying the benefits that are being felt by

open data companies and their customers. We will examine more of the ways in which UK companies work with open data, the barriers they face and how the adoption of open data might be accelerated.

Recommendations for business

The open data companies featured in this report are varied in their size, location and age, and showcase many different ways of using open data. The report provides a basis for all companies to seek out, explore and learn from these examples; to adapt the approaches for their own business or create completely new ones.

Companies of all shapes and sizes can benefit from the opportunities that open data brings. All companies can use open data when making strategic

decisions. Some may be able to use open data to improve or enhance existing products and services. A few may discover new opportunities to act as intermediaries, providing open data tools to a growing market. More may discover the potential of publishing open data to better connect with customers, suppliers and partners, or simply to demonstrate their corporate and social responsibility.

As a company, now is the time to get to grips with the opportunities that all kinds of data – closed, shared and open – can bring to your business.

A good first step is to **become familiar with the open data resources**, from both government and non-government sources, that you can use within your business. Top of your list are likely to be demographic statistics from the Office of National Statistics, and geospatial open data from Ordnance Survey and Open Street Map. Other data will be sector specific, and while the government has adopted an open by default policy in some cases you may need to request the data you need. The [Finding Open Data](#) guide provides many useful starting points for locating and requesting relevant data.

Developing your company's capacity to take advantage of data, both at the analytic and at the strategic level, is vital. To make the most of the potential that data has to offer, your employees need to be able to work with data, understand which data to trust, and incorporate data publication and use into your business model. The ODI offers a range of courses suiting everyone from executives to technicians, which can equip your business with the skills it needs.

As with any novel area, the best source of intelligence about the opportunities for using open data, the barriers you will encounter, and how to surmount them, will come from companies who are already on this journey. Whether these companies are in your sector or beyond, forging connections with others who have experienced similar challenges provides opportunities to learn and find potential allies. Becoming an ODI Member is one way to connect with other organisations who are working with open data.

The business opportunities around open data are boundless. At the ODI, we

want to learn more about the innovation, the challenges and the impact of open data within companies. If you have an interesting story to share, or want to learn more about how open data can benefit your business, please [get in touch](#).

Recommendations for government

Open data is fueling new products and services from UK companies across every sector. This study has shown that open data is a technology that can be used by everyone.

The rapid growth of open data companies in the UK has been enabled in no small part by **strong political leadership on open data**. Over the past decade, successive UK governments have re-affirmed their commitment to open data as

raw material for innovation, and sought to put in place policies that help government, businesses and people realise its benefits.

This study also tells us clearly that **the UK open data environment can still be improved**. Some key findings have emerged from the issues encountered by companies using open data.

Firstly, fundamental to a company's ability to build viable products and services using open data is certainty on two key points:

1. the data needed is made available as open data
2. it will continue to be made available as open data

Several companies interviewed noted that while data publication ('getting the data out there') has been a priority for government, in many cases the data that has most economic potential for companies is not available as open data (geospatial data and address data cited as two examples). In some cases where the data was available as open data, companies could not be sure it would continue to be published.

Secondly, where companies could identify open data for potential use, several factors influence their ability to innovate. While a range of issues were acknowledged by companies surveyed, three key issues emerged:

1. lack of accuracy and poor quality of the data
2. licensing of the data
3. ease of access to that data

These are areas that require further attention by data publishers, to maximise reuse. Ultimately, while open data is being used by a significant number of UK companies to underpin new products and services, its foundations can be fragile. Data quality and reliability issues continue to hinder innovation.

We therefore recommend that government **continues to release as open data the**

~~data that companies can benefit from, in particular expanding the range of~~

data that companies can benefit from, in particular expanding the range of geospatial data that is available and working towards the release of open address data.

Further, we recommend that **government should tackle the issues of accuracy, quality and reliable access to data**. The ODI's Open Data Certificates provide a measure of the quality of availability of open data and can provide detailed recommendations for improvements for individual datasets.

Improved open data reliability could also be supported by the government encouraging or mandating the use of open data in its own decision making:

“

“What if the government actually used open data for making decisions? Wouldn't it get better? If there's a spend analysis tool that's out there that's actually really good, either open up that data or use your statements to do your spend analysis. If [government] really want to improve the quality of open data, use it.”

”

– Ian Makgill, Spend Network

Ministers, for example, could **require the inclusion of the data and analysis underpinning any policy decision to be published as open data**, as part of any impact assessment. This would serve to stimulate the release of data that is important to policy decisions (and therefore in the public interest), to encourage government to adopt evidence-based policy making, and to improve the quality and availability of data from the public sector.

While this study has shown wide use of open data by companies within the UK, a direct result of the open data policies that have been put in place by the government over the last five years. But there is still more to do to improve the quality of publication, to make public sector open data a source that companies can rely on.

How to cite:

Please cite this report as: Open Data Institute (2015) Open data means business: UK innovation across sectors and regions. London, UK. Available at open-data-means-business-uk-innovation-sectors-regions

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Appendices

Fri Sep 9, 2016

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Authors, editor, web production, acknowledgements, list of interview participants and related resources.

Appendices

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Acknowledgements

We would like to acknowledge the contribution to this research of:

- All featured companies, survey and interview participants
- Contributors to the database of open data companies
- The GovLab's Open Data 500 team, on whose work some of our survey questions were based
- Members of the ODI team: Anna Scott, Emma Thwaites, Gavin Starks, Helen Desmond, Jeni Tennison, Kathryn Corrick and Phil Lang
- The OpenDataMonitor project, funded by the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 611988, which has supported this research in part

List of interview participants

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- Doorda: Clifford McDowell, CEO & Founder
- FoodTrade: Ed Dowding, CEO & Founder
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- Mime Consulting: Steve Preston, Director
- Open Utility: James Johnston, CEO & Co-Founder
- OpenCorporates: Chris Taggart, CEO & Co-Founder
- OpenSensors.io: Yodit Stanton, CEO & Founder
- Shoothill: Rod Plummer, Managing Director
- Spend Network: Ian Makgill, Managing Director
- Swirrl: Bill Roberts, Founder

Related resources

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Database of open data companies

- View as a [Google Sheet](#).
- Download all tables as [.xlsx](#).
- Please visit spreadsheet to download individual tables in .csv format.

Tables featured or referenced in the report

- View as [Google Sheet](#).
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- Please visit spreadsheet to download individual tables in .csv format.

Survey sent to participating open data companies

- View as [Google Doc](#).
- Available to download as [.pdf](#).
- [All graphics are made available on GitHub](#)

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- [National Statistics Postcode Lookup \(NSPL\) Feb 2015](#)

Public database contains:

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- Data adapted from data from the [Office for National Statistics](#) licensed under the [Open Government Licence v.3.0](#)
- ONS broad industry groups from [UK Business: Activity, Size and Location, 2013](#)
- UK SIC Code 2007 from [UK Standard Industrial Classification of Economic Activities 2007 \(UK SIC 2007\)](#) – Summary of structure

How to cite this report

Please cite this report as: Open Data Institute (2015) Open data means business: UK innovation across sectors and regions. London, UK. Available at [open-data-means-business-uk-innovation-sectors-regions](#)

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Methodology

Fri Sep 9, 2016

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Our research followed a mixed-methods design and was organised in three consecutive phases — identifying, surveying and interviewing open data companies.

Methodology

Our research followed a mixed-methods design and was organised in three consecutive phases — identifying, surveying and interviewing open data companies — as summarised in Figure 7.1 below:



our research into UK open data companies

This blend of desk research, surveying and interviews is conducive to studying an emerging phenomenon (Hesse-Bider, 2010) — in this case the commercial exploitation of open data. Specifically, it enabled us to gather and analyse a breadth of data covering both quantitative characteristics of UK open data companies and qualitative accounts of their perspectives and experiences.

Identifying UK open data companies

In the first phase of the study we used desk research to identify companies working with open data in the UK. Initially, we aggregated information from internal resources, such as the ODI membership and contact directories, to identify and develop a working list of candidate ‘entities’. At this stage of the research we kept a wide variety of entity types in scope including, for example, individual developers, companies not registered in the UK and charities. Analysis of publicly-available sources, such as data.gov.uk case studies, enabled us to increase this candidate

list to include 739 entities.

We then conducted extensive additional desk research using open data from Companies House and the Office for National Statistics to collect specific pieces of data about each entity, such as legal company type and trading status. Using publicly accessible sources we developed our own descriptions of the entity and their open data usage. We also identified trading addresses and relevant contacts' names and email addresses from public sources.

In order to limit our broader candidate list to valid UK open data companies we then developed and applied the following selection criteria:

1. Must have a UK company number
2. Must be an active company
3. Must not have a dormant UK Standard Industrial Classification (SIC) code
4. Must be a valid company type (Community Interest Company, Industrial and Provident Society, Limited Liability Partnership, PRI/LBG/NSC, PRI/LTD BY GUAR/NSC, Private Limited Company or Public Limited Company)
5. Must not be a registered charity

Applying these criteria reduced the candidate list from 739 entities to 399 companies potentially working with open data in some capacity.

Surveying UK open data companies

In September 2014 we launched a survey to further explore how UK companies were working with open data. The survey targeted the companies on our filtered candidate list, with the exception of 15 for whom contact details were not available. This left a target group of 384 companies who we invited by email to complete the survey. This invitation was sent on 2014-09-23.

At this stage, we also made the candidate list of UK open data companies available through the ODI website, to give companies the opportunity to see the information we had collected about them and their involvement with open data, and to provide us with feedback. We sent two reminder emails at 10 day intervals, on 2014-10-03 and 2014-10-13, before closing the survey on 2014-11-01.

In creating the survey, we followed Couper (2011) to produce an instrument that addressed pertinent issues while maximising response rates among very busy professionals. The questions were informed by systematic survey of open data literature (academic, government and industry) to identify the core themes in the field, and designed to cover various aspects of commercial open data activities, such as revenue streams, pricing mechanisms, datasets used, products and services developed, and challenges related to open data reuse.

We received 77 survey responses from those companies invited to participate via email, which represents a response rate of 20%. An open call to complete the survey was also launched via the @ODIHQ Twitter account, resulting in five

additional completed surveys and 82 responses in total. We then aggregated and cleansed these to remove duplicate, incomplete and/or inadequate responses, leaving 79 valid responses for analysis.

We analysed the resulting data using the ‘R’ statistics package and Google Sheets. A number of questions, primarily those involving free text answers, required a degree of re-coding. This was carried out to align, where possible, very specific free text answers with existing broader categories, in order for them to be included in the quantitative analysis. Logical inconsistencies between questions were also corrected. For example, where a respondent listed (in response to Question 10) non-government datasets they use, but failed to indicate in response to Question 9 that they use non-government datasets, we re-coded the response to Question 9 to give an affirmative answer.

For question 14 we asked companies to indicate the importance of eight different aspects of open data to their engagement. To analyse these together to look at relative importance meant we could only use companies which provided answers to all eight parts. In some cases companies answered some but not all questions. In order to maximise the analysis and include as wide a range of opinions as possible we used imputation. This entailed replacing missing values where companies had answered a majority of the parts (5, 6 or 7). The missing values were replaced by the mean of the other answers to that part so that the analysis would not be greatly affected.

Some questions with non-numeric responses required grouping similar answers into categories in order to enable meaningful analysis. For example, in questions 8 and 10, responses were grouped by data provider in order to identify how often each supplier was mentioned by companies. This involved recognising and grouping together suppliers who were mentioned in a variety of ways, for example “Ordnance Survey”, “OS” and examples of specific datasets such as “Codepoint”.

Interviewing UK open data companies

Following collection of the survey responses, we conducted follow-up interviews with 12 companies who had completed the survey. This enabled us to gain further insights into their work with open data.

We selected companies for interview from a range of industry sectors, and who play varied roles within the ecosystem. In addition, we endeavoured to select companies with innovative products and services that have the potential to grow or scale in the future. This enabled us to further explore factors which may encourage or stifle more widespread commercial reuse of open data.

The interview questions followed the themes of the survey questionnaire. However, we adopted an open ended interview format to encourage interviewees to elaborate on their work with open data. All interviews were completed either in person or via ~~Skype and lasted between 30 and 60 minutes~~.

Skype and lasted between 30 and 60 minutes.

The interviews were recorded and transcribed for analysis according to the topics covered in the survey (Saldaña, 2009). New themes also emerged from these interviews, adding further insight to the survey responses. In particular, these concerned the challenges facing open data companies, including discontinuous publishing and the need for more data to be published.

The data from the interviews was used, in part, to write the UK open data company use cases and provide a snapshot of their experiences with open data.

Refining the list of UK open data companies

Following completion of the survey and interviews we re-evaluated the 399 companies included in our original candidate list to ensure there was sufficient publicly-documented evidence of their work with open data to warrant inclusion in the final list. This process resulted in the set of 270 companies you can find in the public database. Open data about these companies, sourced from Companies House, informed our analysis of the the scope and diversity of open data companies in the UK.

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