Building a website, a Digital Publishing capability and a reputation
Laura Dewis
Chief Publishing Officer
Office for National Statistics, UK
Digital Publishing of Statistics

UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE (UNECE)
CONFERENCE OF EUROPEAN STATISTICIANS
Work Session on the Communication of Statistics, April 2015

• Establishing a Digital Publishing Division and changing the operating model
• Improving the website
• Understanding our users
• Developing digital first content
Independent report

“To bring the ONS website up to current good practice and at least match the performance of the websites of the G10 group of countries may well take until 2017 (half-way through the period of the current ten year business strategy) to achieve. This is a very substantial change management exercise.”
Do you experience any issues using the website?

- 31% Site search (relevancy)
- 23% Site search (too many results)
- 6% Navigation
- 6% Accessing time series data
- 6% 404 errors / Redirects
- 3% Jargon
- 9% Too much information on website
- 9% Making contact
- 9% Quality of statistics
- 6% Methodology
- 3% Functionality errors
Discovery

- Analysis of all user testing since 2012
- Survey of 400 users and 50 follow-up interviews
- Development of personas
- Publishing model
- Developing a pattern library
- Responsive design
- Procuring team for Alpha build
The output price index for goods produced by UK manufacturers (factory gate prices), rose 0.9% in the year to January 2014.
Aidan works at as a statistician for HM Treasury. He has a PhD in statistics. He has a reasonable level of autonomy in his job. He knows ONS quite well and has contacts within the ONS with whom he can discuss problems or things he does not understand.

**Key goals**

- Find a particular Excel spreadsheet to download, without being distracted by similar-sounding information
- Cut and paste data from spreadsheets into own statistical models and analyses
- Re-find datasets that he has previously found
- Find the latest report/dataset for a particular data series
- Create a bespoke dataset, tailored to exactly to support the statistical models he is creating
- Sometimes uses a reference code to search for datasets
- Viewing all versions of a particular dataset
- Find out when the next version of a dataset will be released

**Behaviours**

- Tends to know exactly what he wants, but can be frustrated by not being able to find it quickly on the ONS website
- Phone the ONS for help in finding specific data or querying methodology
- Access ONS website from desktop PC in office
- May be critical about mistakes and shortcomings in the provision of statistics
- Tends to use Google to search the site as has little confidence in site search

**Motivators**

- It’s part of his job to analyse data
- Has a passion for data and needs reliable, high quality data so that he can feel confident in his analyses

**We must...**

- Make it simple and straightforward to find and re-find specific datasets

**We must not...**

- Give the impression of dumbing-down the statistics provided on the ONS site
Imogen is the Head of Human Resources for a medium-sized company with offices across the UK. She is a business graduate and a real ‘people person’. She’s dynamic and ambitious and sees real value in the data that the ONS offers for anticipating how changes in workforce and wellbeing will affect her company in the future.

“I just need enough data to help me make the right decision”

**Key goals**
- Looking for data that can be used to make practical, strategic decisions for her business
- Wants to see high level summaries, narratives and key charts that provide context for deeper understanding
- Occasionally downloads datasets for simple analysis if necessary
- Wants to keep up to date with latest economic and population data
- Usually looking for time series and comparison data (e.g. local v national) in order to be able to predict future opportunities
- Produce charts and statistics to support arguments in funding applications and strategy reports

**Behaviours**
- Proactive - seeking knowledge to affect change
- Don’t know exactly what to search for, but aware of general area
- Basic working knowledge of statistics and Excel, but by no means an expert
- Signed up for ONS alerts - find these useful for keeping up to date
- Tend to take ONS statistics at face value
- Usually time pressured

**Motivators**
- She is intrinsically motivated, and appreciates that sector knowledge can help her and her company to be a success
- Although not officially part of her job, using ONS data provides added value or advantage to her over her colleagues or competitor companies

**We must...**
- Surface key economic and business data so that it is in ‘line of sight’ rather than relying on search
- Provide related (and cumulative) data in one place to reduce need for piecemeal research

**We must not...**
- Provide too much information exclusively in PDFs as this is difficult to access and copy/paste
- Make the language on the site too complex for her
Christine  works part-time as a librarian. She has two grown-up children, both at University. She is well-read and had a degree in History. She has a natural interest in politics and current affairs, but is concerned about the mis-use of data for political means. She has a public sector pension as a result of her job.

“I need the ONS to help me to find the truth”

Key goals

- Finding out the unbiased ‘truth’ about information presented by the media and political parties
- Finding out about economic indicators such as RPI in order to be able to make informed decisions about pensions and investments
- Finding out about newsworthy topics such as immigration, house prices, inflation, the cost of living, economic growth
- Wants to find simply worded, high level summaries and narratives of newsworthy issues
- See charts and infographics to get visually engaging overview of key data and trends

Behaviours

- Tends to be reactive to current events
- Doesn’t download datasets
- Engaged with social media; follows the ONS on Twitter
- May take part in discussions around issues on newspaper websites
- Occasional visitor to ONS website
- May browse the site with her smartphone or tablet sometimes

Motivators

- Personal/political interest
- Financial implications of the economy (e.g. for pensions & investments)
- Has an enquiring mind; looking to make sense of the world
- Distrust of big business and government; looking for a trustworthy source of information

We must...

- Provide content that both engages and educates her
- Provide timely content that is relevant to key issues in the news

We must not...

- Use language that is too complex
- Give the impression of having any political agenda whatsoever
Discovery prototype

• All aspects of the dataset need to be documented (Be better than Excel)
• Give everything a unique URL down to individual observations
• Enable dynamic generation of charts (users and producers)
• Make charts embeddable
Build to adapt

As-is
• Waterfall – optimise by role
• I-shaped roles
• Testing at the end
• Manual operations
• Handoffs
• Incongruent environments

Future model
• Agile – optimise the whole
• T-shaped/ E-shaped roles
• Test driven development
• Automated operations
• Dev-Ops
• Environment Congruency
Design principles

• User focused
• Data Driven
• Google is our homepage
• IE7 is dead / IE8 is on life support
• Do not reinvent the wheel.
• Build for sustainability
• Bake in accessibility from day one
• agile *not* AGILE
• Machines have needs too
• WWGDSD *

* what would GDS do?
Some good examples across government
Sir Andrew Dilnot appears before Public Administration Committee where ONS website is criticised.

ONS website is improving, Andrew Dilnot tells critical MPs
By Ed Llewellyn
Political editor, BBC News

The official website for communicating public data is in “horrible” and a “disaster”, MPs have told the chief executive for the service.

Andrey Cright, the chairman of the UK Statistics Authority, accused the Office for National Statistics (ONS) website last year of not being “one of our greatest moments”, but he emphasised that there had been “significant” improvements recently.

Tim Harford of the FT writes scathing article, about the website, including calling it a “national embarrassment”.

A statistical needle in a bureaucratic haystack
The data aren’t useful because they’re spread across a gazillion spreadsheets, says Tim Harford

Finding government statistics is not easy. Both expert users and occasional users struggle to navigate their way through the multiple places in which statistics are published. UK House of Commons public administration select committee report, May 2013

Chris Giles writes about the suggestion that ONS data could be “drip-fed” on publication day as the website couldn’t cope.

“Stark raving bonkers” official plan for the @ONS to drip-feed econ data to markets, due to crapness of its website ft.com/cms/s/0/66f8f2...

The website has to be taken down following issues caused by the implementation of the new taxonomy. Coverage is mostly useful as the ONS account keeps users informed of progress.

The Office for National Statistics has an EMERGENCY WEBSITE: onsbackup.org.uk
It’s like Thunderbird One. Loving it.

Current website launches
website undergoing essential maintenance

ONS economic time series launches
Website survey

Alpha launches

Mention Volume

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Negative | Neutral | Positive
AND...

“Well done... Can you now take the old ONS website out into the car park, douse it in petrol and set it alight”
Beta development

• As a publisher I want to create publish dates so that a release calendar can be populated
• As a publisher I want to add a chart to my bulletin so that I can publish it in context
• As a publisher I want to add an equation to my article so I can publish it in context
• As a publisher I want to add metadata to my content type so that it can be published in context and become easy to find
• As a publisher I want to create a corrections notice on any content type so it can be published in context
Meeting the needs of the citizen

The UK stock market: is it really at an all-time high?

March 25, 2015   By ONS Digital

The Financial Times Stock Exchange (FTSE) 100 share price index broke the 7,000 points threshold for the first time on 20 March 2015, increasing its post-financial crisis gains and
What have we learnt?

Official data, new light - Visual.ONS wp.me/p3vXlv-bm via @ONSDigital - probably the most impressive thing ONS has ever done. Magic.
Why does it work?

• No preannouncement
• Engaging exploratory content for control
• Personalisation for ‘share-ability’
• Search friendly titles
• Short content for ‘on-the-go’ reads
• Explainers for technical language
• Tags to easily find related content
• Modern design
What percentage of marriages end in divorce? 27,326 visits
Summary of Internet Access 533 visits
Fall in Crime 843 visits
Growing editorial capability

“Since 1980, there has been considerable fluctuation in the UK housing market. Overall, there has been growing demand and relatively limited supply growth. House prices have been increasing, and first time buyers are finding it more difficult to get on the property ladder – while home ownership among younger age groups generally has declined.”
Commissioning and production

Priority setting from DD(DP) & SCS

Business areas

External commissioning

Product Managers

User Insight team

Editorial & Design team

Data Visualisation team

Content Management team

WWW
It’s not just a technology problem
Post-publication health checks

Crime Statistics
Migration Statistics
Population Estimates for UK, England and Wales, Scotland and Northern Ireland, Mid-2011 and Mid-2012
Quality issues

Health check ratings as a percentage of monthly total
Percentage of monthly release total

- Green
- Green with caution
- Amber
- Red
Lack of consistency

<table>
<thead>
<tr>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOI: Time series for disposable income</td>
</tr>
<tr>
<td>FOI requests: Employment estimates</td>
</tr>
<tr>
<td>FOI 1740 (Legal Fees) - 2008-13 (Excel sheet 22Kb)</td>
</tr>
<tr>
<td>FOI request: Business Investment Q4 2010 Provisional Results</td>
</tr>
<tr>
<td>FOI request: Number of mixed race children growing up in single-parent homes</td>
</tr>
<tr>
<td>Crime in England and Wales, Year Ending March 2013</td>
</tr>
<tr>
<td>FOI request: Unemployment by local authority 2004 to 2012</td>
</tr>
<tr>
<td>FOI request: UK mortality by cause</td>
</tr>
<tr>
<td>FOI Request: Contract to provide new orders in construction</td>
</tr>
<tr>
<td>FOI disclosure log: Travel and Transport</td>
</tr>
<tr>
<td>FOI Request: Imputed rent figures methodology</td>
</tr>
<tr>
<td>FOI request: Annual number of divorces nationally from 1940 to 2013</td>
</tr>
<tr>
<td>FOI request: Proportion of the UK population officially classed as an ethnic minority</td>
</tr>
<tr>
<td>FOI request: Facilities Projects</td>
</tr>
<tr>
<td>Divorces FOI divorce rates (Excel sheet 31Kb)</td>
</tr>
<tr>
<td>FOI Request: Statistics on the number of claimants of Jobseekers Allowance (JSA) (Excel sheet 27Kb)</td>
</tr>
<tr>
<td>FOI request: 2012 Pink Book</td>
</tr>
<tr>
<td>Breakdown of land usage per type/category for each county in England &amp; Wales</td>
</tr>
<tr>
<td>Number of persons employed NOT in a training, apprentice or work programme</td>
</tr>
<tr>
<td>FOI disclosure log: Social and Welfare</td>
</tr>
<tr>
<td>FOI request: Mental health of children from separated parents</td>
</tr>
<tr>
<td>FOI request: Sale of personal data</td>
</tr>
<tr>
<td>FOI request: Insurance claims to ONS</td>
</tr>
<tr>
<td>FOI request: Death rates for UK, North East, Tyne and Wear and Newcastle upon Tyne</td>
</tr>
<tr>
<td>FOI Request: The cost of running ONS</td>
</tr>
<tr>
<td>FOI request: Over 65s in Christchurch</td>
</tr>
</tbody>
</table>
Support overhead

Number of publishing and support queries to PST October 2014 - September 2014

- Publishing and support queries
- Number of ONS releases

Graph showing the number of publishing and support queries to PST from October 2013 to September 2014. The graph indicates a general decrease in queries over this period, with fluctuations in the number of queries.
Training overhead

Number of ONS staff trained on courses required for Tridion permissions

- New website launch
- Writing for the web becomes mandatory for Tridion roles
- Includes Tridion training for Pub Hub

X-axis: October 2008 to October 2014
Y-axis: 0 to 140

Graph showing the number of ONS staff trained on Tridion permissions, with peaks corresponding to specific events.
What are the consequences of not fixing the problems?

- Breaches of publishing standards
- Code of Practice breaches
- Legal non-compliance
- Unauthorised publishing onto third parties
- Inconsistent user experience
- High training costs
- Difficulty maintaining site over time
- Duplicated content
### How does it work elsewhere?

Author/Publisher, Journalist/ Editor, Historian / Curator, Scriptwriter /Producer, Academic /Learning designer

<table>
<thead>
<tr>
<th>AUTHORS</th>
<th>EDITORIAL TEAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyse data, write and fact-check content</td>
<td>Proof-read and correct basic errors eg spelling</td>
</tr>
<tr>
<td>Ensure appropriate context and flow</td>
<td>Ensure appropriate digital product design</td>
</tr>
<tr>
<td>Supply content</td>
<td>Upload content</td>
</tr>
<tr>
<td>Provide specialist keyword metadata</td>
<td>Provide user research keyword metadata</td>
</tr>
<tr>
<td>Sign off statistical accuracy</td>
<td>Sign-off compliance with web standards eg accessibility</td>
</tr>
</tbody>
</table>
Deep dive: NSI Survey

- Visited two NSIs – Germany and Netherlands
- Sent our survey to 56 NSIs
- 23 responses
- Analysis
- Reviewing findings
Survey findings

- 30% had fewer than 10 people using their content management system
- 1-20% of releases are not published on time due to human and technical failure
- Majority of NSIs have an editorial team who check content 1-3 days prior to publication
- Majority of NSIs can change content up to 1 hour before publication
Survey findings: Netherlands

• Netherlands authors trained by journalists
• Reducing content types from 3 to 1
• Very concise text
• Use multidisciplinary ‘clusters’ of statisticians and publishing experts
• Publishing staff involved from beginning
Survey findings: Germany

• Central Editorial Team (CET)
• Editor in Chief
• Authority to make changes and stop publication
• CET author some stories, but always with statistical sign-off
• Publishing standards have equal importance to statistical standards
“Devolved” publishing can work if...

- The process includes QA of publishing standards
- Central team have sign-off for web standards
- All publishing roles are full-time and standard
- Multi-disciplinary teams from start
- Recruitment and handover
- Holistic scheduling managed
- Project managers oversee dependencies/risks
When it works

78% pages show increase in traffic since refresh
Average increase is 725%
Encouraged respondents
Helped recruitment
Increased transparency
Increased outreach.
Publishing pilots

- Test a “Hub and Spoke” model
- Automate some functions in site rebuild
- Reduce the amount of content/ types of output
- Empower editorial staff to improve quality
- Improve how scheduling is managed
- Use Lean principles to streamline processes
Tackling scheduling

Estimate of minutes taken for the statistical publishing of all outputs on each day in Q4 2013
High level publishing model (Beta)

Business areas (create content + own checks including any discussion with OGDs)

Agree changes

Editorial + Health check (writing for the web)

Content designer (input content)

Second set of eyes/2nd Content designer (web standards checks)

Approved for publish in system

Send for pre-release access

Before set to live need approval from business

Business area approval on preview site

Yes to Publish

Content designer/Second set of eyes (2nd Content designer)