

How ONS changed workplace culture to get the best out of cloud

Project objective

[The Office for National Statistics](#) (ONS) wanted to move some of its services to the cloud to help its core functions operate more efficiently and effectively.

Migrating to the cloud and changing workplace culture was important to help the Digital Services Technology (DST) directorate fulfil 4 strategic outcomes. The function wanted to develop:

- a highly capable, digitally skilled workforce
- efficient automated operational processes
- robust leading edge technology
- flexible and adaptive delivery methods

The purpose of the directorate was to “enable innovation at speed and scale to keep ONS at the forefront of providing data, statistics and insights which matter”. It was important to the organisation to use cloud technologies so they could provide faster access to technology services and greater scalability.

About the ONS

The ONS is the UK’s largest independent producer of official statistics. They are responsible for collecting and publishing statistics about the UK economy, population and society.

The ONS is also responsible for running the census in England and Wales every 10 years.

Why the ONS decided it was ok to use the cloud

The DST directorate worked with other teams across ONS to adopt a cloud-first approach. Technology leaders agreed that using mature cloud tools would help the organisation:

- better collect, process and interpret data to produce higher quality statistics
- improve data sharing with users, stakeholders and policy makers
- store data more securely
- efficiently complete the large-scale online census in 2021

Overcoming blockers to using the cloud

It's important for the ONS to maintain trust in the data and statistics it produces. The first step was to engage the ONS board and demonstrate that using the cloud was as secure as existing on-premise solutions.

The ONS Chief Security Officer submitted a security paper alongside a technology cloud paper to the board. These papers explained that the organisation needed to move to the cloud to meet business needs and that migration was not just a cost-saving exercise.

Senior leaders were concerned that putting data into the cloud would cause security issues. This led to limited innovation when developing digital and technology products. One of the main reasons for ONS using cloud technology is to have more scalability and faster access to technology services across all areas of the business.

ONS took responsibility for the security of its cloud usage within the provider's service. This meant taking on the security management of people, data, applications, operating system and networks. The organisation developed 8 security principles which helps it to make sure:

1. Data in transit is properly protected.
2. Data at rest is properly protected.
3. Cloud services are security assured.
4. Cloud services are securely managed.
5. Cloud services are secured by design.
6. Access and use of cloud services is controlled.
7. Cloud services interfaces are protected.
8. Cloud services are protectively monitored.

If the organisation wanted to achieve core business objectives, such as getting 75% of the population to fill out the 2021 Census online, it would need to use scalable cloud services.

DST set up round table discussions with subject matter experts from different professions across the organisation. This helped staff to find out more about cloud usage and feel more involved and supported.

At first, ONS had people within the organisation who did not want to change and work in a new way. The department grew and spent the training budget to invest in staff to address the gaps in capability created by the move to cloud technologies across the organisation. DST convinced the leadership that increasing the training budget was critical to achieving business goals.

Engaging with the workforce

Senior leadership aimed to remove any misconceptions about the cloud by being transparent and focussing on contentious topics like security. For example, the Chief Security Officer and cloud providers presented to staff and answered their questions in an open forum. By providing honest responses to staff's concerns and getting providers to give talks within the organisation,

the DST built trust in its cloud strategy.

The communications team did user research and used analytics to improve engagement rates of content. The organisation usually provided staff with information by broadcasting messages. All teams were asked how they wanted to receive information. As a result, the organisation personalised their cloud strategy information to specific teams to make it clear what it meant to them.

The communications team did a lot of work to better understand the different types of information staff would need. As a result they introduced regular content updates in narrative form which invited feedback and questions. This approach was as much about improving understanding as it was about gaining feedback and improving collaboration.

ONS ran workshops to explain concepts like the zero trust model. Staff were shown technologies and given tutorials like how to build a service to make it easier to understand what was being used and why.

ONS communicated these messages through multiple channels such as:

- blogs posts
- email
- social channels like Slack
- show and tells
- town hall events
- feedback workshops

The comms team set up a technology week across ONS which included 36 events, each with a specific objective and target audience. Content was crowd-sourced from user groups, and events were open to all. For example, cloud sessions included:

- guest talks from AWS and Google Cloud
- non-technical introductions to the cloud
- panel discussions sharing experiences from different providers
- one to one opportunities with cloud experts
- 'Ask Me Anything' sessions with senior decision makers

New ways of working and their benefits

Introducing [DevOps](#) and [DevSecOps](#) made a positive impact on development processes. These new ways of working helped to remove the traditional split between developers and operations and resulted in more collaborative working across the organisation.

Agile coaches were embedded in teams as well. With these roles came the move away from waterfall to agile ways of working and a continuous iteration approach.

The DST directorate started by doing a lot of small proof-of-concepts to explore different providers, improve capability, show the value of cloud and

fail fast. The CTO maintained an honest and open conversation with staff to make it clear that experimenting and sometimes [failing was ok](#).

Lessons learned

If there was one thing ONS would do differently it would be to have more staff engagement from day one of the project.

Being open and honest with staff about the cloud strategy and cultural change was important in getting buy-in. Embracing the ability to fail fast and being open was best, especially when senior leaders did not have the answers.

Using the cloud beyond 2020

Cloud is going to be critical to help ONS be more responsive and innovative to meet business requirements and user needs. The DST directorate takes the approach of 'Think Big, Do Small, Act Fast'. The cloud allows them to try out things quickly and cheaply as proof of concepts or pilots with test data before any big investments are made.

The organisation wants to achieve a 75% online completion rate of the 2021 census. The team had a trial run of census products in 2019 and is in the process of iterating the digital delivery. The scalability of the cloud will support millions of users filling out the census at the same time.

ONS has a target of having 80% of its infrastructure in the cloud by 2023.