

**CIONET UK COMMUNITY
PROGRAMME 2023**

**DATA
SOVEREIGNTY**
TAKING BACK CONTROL

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Data Sovereignty: Taking back control

This article is written by [Roger Camrass](#), director of research for CIONET International, and is based on the second UK community programme event of 2023, which was held at the Institute of Directors in London and attended by more than 100 digital leaders.

Prelude to the event

Our digital footprint is now as precious as our physical identity and integrity. This high value is as true for us as individuals as it is for companies or even countries. Data and digital flows are the foundations of societies and the primary source of value in the digital economy.

However, the importance of this data also brings inherent risk. A handful of mega-powerful Big Tech companies have extracted, monopolised and monetised our data during the past two decades. More than 90% of data connected to Western individuals and organisations is hosted in the US. Geopolitical actors increasingly use digital technology and data as tools of power. Legal initiatives, such as the US CLOUD Act and the Chinese National Intelligence Law, give foreign powers unlimited access to our data.

European organisations and governments are responding to this power grab and re-evaluating their external exposure. They are launching digital sovereignty-related initiatives to maintain or acquire physical and digital control over strategic assets, including data, algorithms, and critical hardware and software.

With this content in mind, our second CIONET UK community programme event of 2023 explored the importance of data in the digital economy. Attendees examined practical steps that can be taken to protect and exploit this ever-increasing commercial resource.



Session One: A Master Class with Dr Mark Powell, head of data and analytics at EY UK&I

Mark is a well-known author and practitioner in data-related fields. He is about to publish a new book entitled *'The Fifth Phase'*. Roger Camrass asked him six questions during our keynote session:

1. Is data the 'new oil' and how successful have organisations been in harvesting this fresh source of potential value?

Mark said most organisations have not been as successful as they had hoped in exploiting their data resources. Big data has been an important management topic for more than a decade but its potential is yet to be fully realised. Analysts estimate that up to 80% of large data programmes fail to meet their return on investment targets. In addition, only 40% of organisations have appointed chief data officers (CDOs) to look after this valuable resource. Even fewer organisations exploit artificial intelligence (AI) effectively.

Referring to the 'new oil' analogy, Mark said data has little value unless it is refined to provide practical insights that help businesses improve their performance. A great deal of IT effort has been directed towards assembling data into formal structures, such as data lakes. Far less effort has been focused on the specific elements that are required to provide clear business outcomes from the collection of data. Mark said large data programmes often lack a clarity of purpose. Managers must understand how to map insights and outcomes to specific data sets if they are to generate successful results from big data programmes.



2. What is your view about combining data from different sources?

Are ecosystems a key model for value creation?

Mark used a practical example from the utility sector to illustrate how multiple data sources can help resolve a business problem. UK water companies typically lose 30% of their assets through leakage. Water regulators are keen to reduce these leaks. Mark worked with a water utility firm and helped the board to uncover a vital link between the data derived from embedded sensors and a set of work management records, which were about to be disposed. The organisation integrated nine sets of data and was able to tackle the leakage problem, which produced big benefits for customers and regulators.

Mark said there many other examples that show how data drawn from external sources can help boost organisational performance. For example, a large hotel chain in the US pays close attention to weather patterns and uses this data to predict room occupancy levels. Airlines, meanwhile, use weather data to help optimise fuel consumption. In all cases, the challenge facing digital leaders is to integrate data sources into workflows and applications.

3. How will it become easier to harvest data in the future? Are platforms the solution to the data-harvesting challenge and will generative AI help?

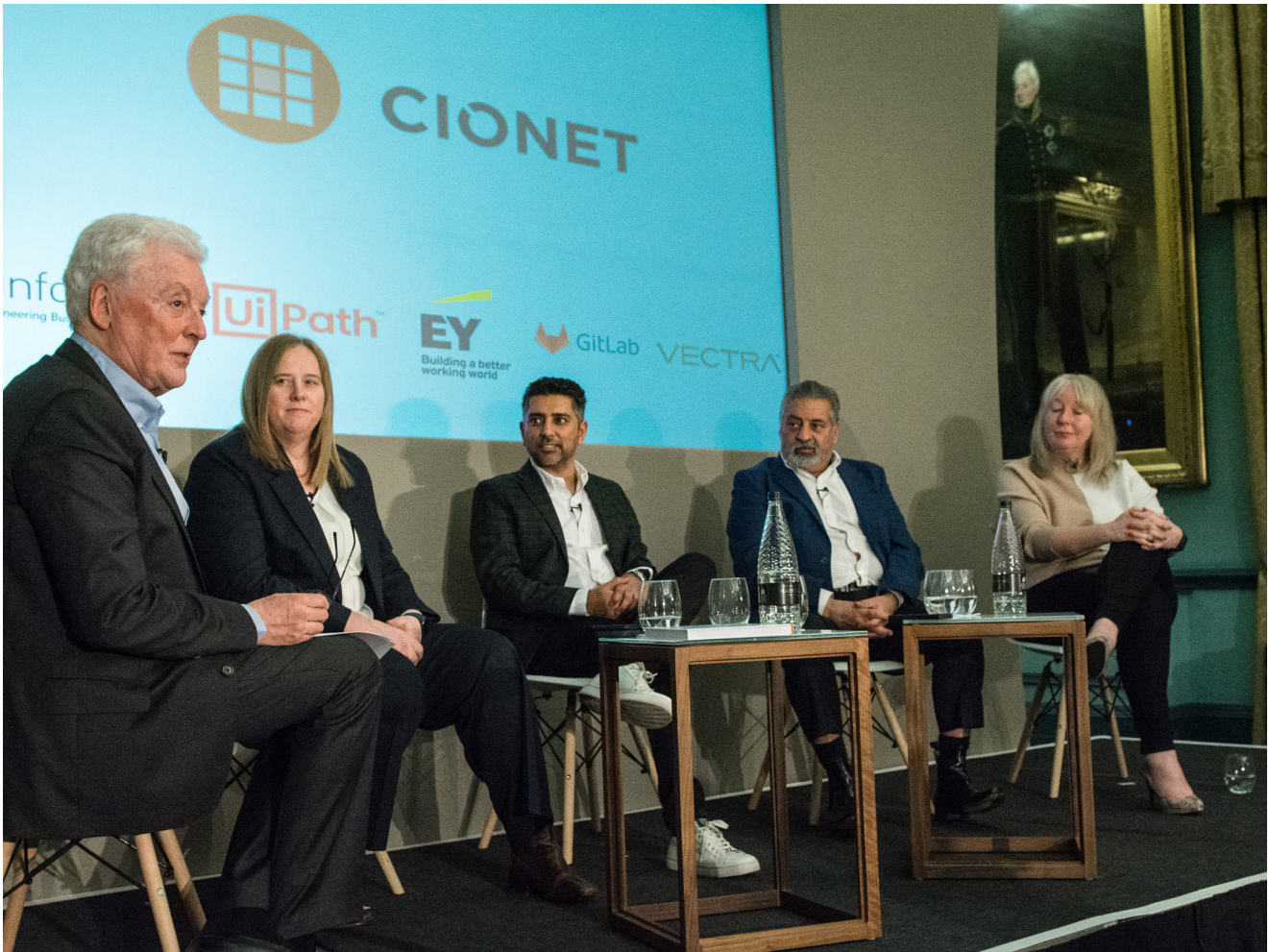
Mark said we are reaching an inflection point where high-quality tools that can tackle data issues are becoming widely available. The rapid growth in the use of ChatGPT during the past few months is illustrative of a new level of access to data-led technologies and AI. At the same time, the shift to the cloud enables vast amounts of data to be stored and processed.

However, technological innovations are only part of the data story. There are significant cultural barriers to adoption. Employees are often unwilling to change how they operate, especially within large, mature organisations, including banks, utilities and governments. Mark said there is a "missing ingredient", where people often suffer from a lack of imagination about how data can transform things for the better. The upshot of this cultural barrier is that changing mindsets is often far harder than upgrading technologies. Mark suggested there is a growing requirement for the appointment of a 'Chief Insight Officer', whose role is to close the gap between technological innovations and cultural norms.

4. How will organisations cope with the exponential rise in data volumes due to the increased use of the Internet of Things and machine-to-machine connectivity?

Analysts anticipate there will be up to a trillion connected machines and devices in use globally within the coming decade. This proliferation of connected devices highlights the rift in digital understanding between IT and operations in mature sectors, such as manufacturing, telecommunications and utilities. There is a growing need to address this capability gap by integrating systems and processes across functional boundaries.

Another challenge is the volume of data being created. For example, users on WhatsApp send 40 million messages every minute. This data-generation process imposes heavy demands on storage. The ecological cost of transporting and storing huge volumes of data could dwarf other sources of carbon emissions, such as aviation, in just a few years.



5. What about data sovereignty and its impact on data as a source of value? How do we protect and secure personal, corporate and national data?

Mark suggested that not all data is created equally. Individuals take a selective approach to data management. We might be protective about some elements of our data, but willing to share other parts where we see personal benefits. One example is medical data – when it's anonymised and aggregated with others' information, our data can help to solve conditions and diseases. At a more personalised level, clinicians use predictive analytics to identify illnesses and prescribe appropriate drugs to reduce individual risk.

Mark said he views data as a global resource that should be used to help solve macro-level problems, including climate change, illnesses and malnutrition. He believes the strengths of a collective approach to data should negate the need for regions such as the EU to build walls to protect its information. Rather than taking a localised approach to the storage and protection of data, Mark said we should focus on establishing the types of data that are needed to solve global problems and then concentrate on assisting countries and regions, so they can harness information assets for the benefit of humankind.

6. What advice would you give to the CIONET community about data management? What role should our members play?

Mark said there are two main priorities for IT executives. The first is to link discussions on data to specific outcomes, such as using insight to solve business problems. Focusing on this priority allows digital leaders to clarify what types of data should be viewed as mission-critical and what tools will be required to yield business value from data. The second priority is to promote the practice of 'imagineering', which encourages people to step out of their current environments and to use data to identify new opportunities. These opportunities might include the development of new products and services or improvements to customer journeys and back-office workflows.

Session Two: Panel discussion

Four distinguished panellists were asked to talk about data sovereignty and to consider its implications for the CIO community and the organisations they serve:

- **Sarah Milton-Hunt**, chief information and digital officer at National Grid
- **Rajat Dhawan**, global chief technology officer at Soho House
- **Rohit Talwar**, CEO at Fast Future
- **Caroline Carruthers**, founder and CEO at Carruthers and Jackson

Here is a summary of the topics that were discussed by the panel.

How can we realise operational gains from our data?

Sarah Milton-Hunt explained how data is helping the National Grid to cope with volatilities in the supply and demand of gas and electricity. The ongoing shift to renewables and the rising power of 'prosumers' – consumers who can generate their own energy – means there is a growing requirement for agile responses to fast-changing national energy demands. National Grid takes data from every part of the supply chain to build an efficient organisation that mediates effectively between supply and demand. Machines work in combination with skilled human experts to analyse the surfeit of data.

How can we use data to improve customer experiences?

Rajat Dhawan talked about his experiences at Soho House, a private members club that operates in 29 locations around the world and is quoted on the NYSE stock exchange. The organisation has pursued a digital agenda and has spent the past two years focused on its data. Soho House members include A-list celebrities. Rajat and his team work hard to ensure any data efforts are undertaken with the highest regard for the brand and its members' privacy. Membership data can provide insights that enable managers, such as Rajat, to experiment with new ideas that might contribute to improvements in customer experiences.

This process of continuous, data-led innovation at Soho House depends on incremental steps that involve all members of the organisation. Rajat said he believes everyone should be part of the conversation around innovation, which he refers to as 'imagineering'. A key area of interest at Soho House recently has been the development of an integrated physical and virtual experience, which enables members to connect as a community. Rajat said it is possible to create a trusted space, which is conducive to fostering social connections.

What are the future trends for data?

Rohit Talwar said there will be an explosion in data volumes during the next few years. In fact, it was suggested the volume of stored data could multiply by a factor of 23 times during this decade. However, storing such huge volumes of data requires an inordinate amount of power. Rohit suggested that we must collect and analyse data more intelligently to help avoid a data storage and sustainability crisis. Blockchain and AI could allow us to control data volumes more effectively, but this automation will have consequences for employment.

One way to tackle the data explosion is to use predictive analytics to help humans focus on the most critical information when they're performing a task. It was suggested that medical diagnostics based on human DNA can help to reduce disease and ease the strain on healthcare resources. It was even theorised that it might be possible to live in a world without hospitals if we invest in effective preventative healthcare.



How do we reskill our workforce to cope with the deluge in data?

Caroline Carruthers said the young, modern workforce has grown up using technology and differs from many of the executives in senior management positions, who were often brought up in a pre-digital native era. We must learn to accept that different generations have varying levels of digital skills. Senior executives have deep experience in their functions, which data-driven techniques can enhance. These managers must work with digital natives to combine their experience with digital science. A panellist said reverse-mentoring techniques can help to encourage inter-generational skills exchange.

One senior executive in the audience described how he educated a large workforce to achieve basic literacy levels. Once this standard was achieved, he introduced digital literacy as a core skill for the entire workforce. Today, this organisation-wide level of digital capability makes it easier to introduce emerging data technologies, such as AI and ChatGPT.

The panel concluded that there is a need to create safe spaces for staff to experiment and learn digital techniques. This space can be used to encourage innovation and create a learning culture that is conducive to our new data-rich environment.

Conclusion: Getting to grips with data

There were a broad range of audience questions and comments received, which elucidated the myriad ways that members of the IT community are wrestling with data issues today. Some insights that were shared were:

- Data management is a process that includes the collection, curation and contextualisation of information. There are no shortcuts.
- Businesses need an effective infrastructure for data storage and processing. Modern cloud platforms provide the capacity and tooling to address this challenge.
- Emerging developments, such as edge computing, can help to solve the data-overload problem.
- The democratisation of data is the best way to engage people within an organisation and to overcome cultural barriers.

What are the take-aways?

The event shone a bright light on the data challenges and opportunities faced by businesses today. Data management remains in its infancy, although new techniques are emerging rapidly. There were several key conclusions from the event:

- Data is not valuable on its own. It needs to be refined. The comparison of data with oil is a meaningful one.
- Managers should start with specific business issues and then think about the data that is required to solve these challenges. The desired outcome is the best place to start.
- The most valuable element of data is the insight that it can deliver to humans. Experienced managers need to acquire data skills to generate insight.
- Intergenerational differences exist between employees in today's workforce. These differences need to be addressed if we are to move forwards successfully.



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A pioneer of today's Internet as an ARPA research fellow at MIT in the seventies, Roger has spent over forty five years helping corporations harness the power of new technologies such as cloud, mobile communications, e-commerce, voice recognition and satellite. He was a partner at EY responsible for e-commerce during the dot.com boom. He is a graduate of Cambridge University and MIT, and a visiting professor at the University of Surrey.

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