



CIONET

DISCUSSION SUMMARY

**WHAT'S NEXT
FOR THE UK CIO
COMMUNITY
7TH JULY 2021**

On 7th July eleven speakers and 120 digital leaders joined CIONET for the fourth Community Event of 2021 in the UK. The event was moderated by Roger Camrass, Research Director of CIONET International, and organised by Jenniffer Tang, Director of the UK Community Programme. It was sponsored by GitLab, EY, Hitachi Vantara and UiPath. Here is a summary of the discussion.

Providing a context for what's next

Following the success of our recent community event – Digital Britain on May 26th, we welcomed eleven respected speakers and panellists to discuss ‘What’s Next’ for our UK CIO community, both within the ‘near horizon’ of 2-5 years and in the ‘far horizon’ of 5-10 years.

Post BREXIT and the pandemic much has changed, and IT agendas have never been busier. We at CIONET UK anticipate that the pace of change will accelerate further during the current decade, placing even greater demands on our scarce IT resources. Now is a good time to prioritise our efforts to deliver greatest value to our organisations and to UK PLC.

What might be different about the future?

Rohit Talwar, CEO of Fast Futures and an international speaker, author and adviser to Fortune 1000 boards delivered a provocative view about where the future might take us, both in the near and far horizons.

According to Rohit, digital already dominates the global economy and its potential is clearly massive. Everyone is talking about its regenerative role in driving global growth. What we see is that the six biggest USA tech companies have combined valuations of over \$9 trillion. Let’s put that in context. It is 10% of the entire size of the global stock market. Incumbent CIOs must ask themselves how we can respond when most of the tech companies do everything we can do, and in many cases, much better. Do we partner with them? Do we collaborate with them? Do we outpace them? What role do we play?

Four challenges for the new economy

Within this context, our research at Fast Futures suggests that CIOs must concentrate on four challenges with respect to the emerging digital economy:

The first is about productivity. All the statistics suggest that, for all the investment in computing over the last few decades, IT has made little difference to improving UK productivity. So how should IT contribute more effectively to the productivity challenge?

Secondly, a key issue is how we measure the 'return on investment' associated with IT. We have seen that around 50 to 70% of digital transformation projects either fail or do not deliver the desired value. Estimates of \$500 billion a year are being wasted on IT projects. The big challenge for the UK economy today is to find new areas of growth and renewal.

The third challenge is about digital intimacy. Businesspeople will need to have a better understanding of IT's capabilities. How can IT help them create new customer experiences and offerings? Business executives will need to understand how they can work more effectively with IT to take greater advantage of technology.

And the fourth challenge is the nagging concern that while we are still catching up with established technologies such as cloud and mobility, we are also trying to master new ones such as AI, IoT, 5G and Blockchain. There are exponential advances coming at us and the pace is accelerating. How do we absorb all this change within our daily schedule?

So where do we expect critical advances in technology? We see technology pushing the boundaries between humans and machines. We see new developments in space. We know that artificial intelligence will help redesign the workplace in a fundamental way. There are so many developments, and the speed of change is accelerating.

As CIOs, we must dedicate more time and attention to thinking about how we can make smart choices about the future. What we might call 'listening to the weak signals' that can become strong in 5-10 years' time. This is what the event today is all about.

Our biggest difficulty post COVID is prioritising how we spend our time and resources with so many developments taking place. We need to be selective and stop projects that are not delivering value. This is all about allocating resources in a highly targeted manner. During the pandemic, many companies halved the number of IT projects. We might be wise to continue to do so post COVID. But we also need to consider future business models.

How to think about new business models

Recently a top UK executive mentioned that one of his kids is earning more monthly from crypto investment than he was as a CEO. I have heard people say Blockchain and crypto will be the next bubble. If you like trading currencies, crypto has become the new standard to store value.

Corporates are adopting crypto currencies such as Bitcoin to hedge their cash holdings. Tesla has somewhere close to \$1.5 billion of crypto on its balance sheet. This implies that economics and technology have become intimately linked over the last few years.

As CIOs you will be expected to be well informed about such digital developments, especially when they can offer entirely new ways of doing business. For example, take a new insurance company in the USA that has adopted crypto as the core of its business model.

In this new insurance model, a customer joins a pool of crypto currency partners. Phantom tokens are entered into a secure wallet. Should any customer in the pool have a claim, you all agree how much that claim is worth, and you pay a token out of your wallet. The interesting feature of this organization is that it has no employees. All corporate governance is undertaken by the Community, including decisions on insurance premiums.

Beyond crypto, the next is the idea that you can design a business entirely in within the digital domain, as we have seen recently with an Italian bio-tech company.

Another example is a biotech company that created an entirely virtual business model based around a product simulation. The company shared the simulation with various partners to co- develop the design and associated supply chain. The result was a fully integrated supply chain based around a shared product concept. This is also becoming the case with building designs.

How to orchestrate change

Now more than ever it is time to bring all members of your organisation up to speed on new technologies such as AI and Blockchain. There are many excellent online learning platforms to assist here such as one offered by the University of Helsinki. I do believe that IT and HR should join forces to ensure that everyone is 'digitally literate'.

To sum up, Rohit believes that every Organization has its familiar dance routines. These are:

- We know how to organise virtual working
- We have mastered digital channels
- We are coping every day with cyber attacks
- We have migrated to cloud and mobile platforms

Prospects for the "New Horizon": 2-5 years out

Setting CIO priorities: What are the priorities for the CIOs of large and complex organisations today and how might these change in the next five years?

Charlie Forte, General Director and CIO of the UK Ministry of Defence described three short term priorities:

- Softer skills are needed to drive change. Transforming an organisation to become digital must be considered a 'team sport' where business and IT work hand in hand
- Data has become the new 'ammunition' for modern warfare. Techniques such as artificial intelligence are needed to analyse unstructured data
- Cyber is the new battlefield with enemy state actors focusing all their energy and attention on this form of warfare.

Now more than ever, defence needs to work closely with the commercial and academic sectors to find solutions to ever more complex and technical problems. The UK is establishing a Foundry to encourage active collaboration here.

Impact of COVID-19: How fundamentally has the recent pandemic changed the business landscape, especially with respect to the acceleration of cloud-first strategies?

Darren Hardman, VP and General Manager, Amazon Web Services, UK&I responded by saying that sweeping changes had occurred due to the pandemic. Whole sectors such as hospitality and travel had to pivot to respond to a collapse in demand. Others such as media companies, retailers and logistics groups had to cope with exponential increases in demand. In all respects, these changes have been a catalyst for cloud adoption which offers high degrees of operational agility.

Experience suggests that 'transformation' was a short-term fix prior to the pandemic. Post COVID, we at AWS see a much more fundamental requirement for reinvention of businesses and governments to cope with a more volatile external environment.

Next generation infrastructures: What might be the evolving role of infrastructure in major corporates such as Allianz in the coming decade?

Natasha Davydova, Global Head of Infrastructure and Information Security, Allianz Technology cited the need for greater flexibility and scalability, as well as more standardisation and accessibility. Software defined (SD-WAN) networks based on hybrid clouds are beginning to transform existing infrastructures to meet these emerging requirements. The new network architectures combine SD-WAN technology with standard componentry to offer 'off the shelf' products to Allianz's many different business units across the globe.

Modern infrastructures use agile business techniques and DevOps to develop software faster. Short sprints deliver a minimum viable product (MVP) that can be tested quickly by the business customer. These developments are undertaken by small, independent teams that take end-to-end responsibility. Automation is also becoming a key component of such rapid developments.

Being a digital native: What are some governance and other major challenges facing CIOs in the start-up and spin-up world of Silicon Valley?

Bryan Wise – VP, Head of IT, Gitlab said that he is fortunate in many respects to be the CIO of a digital native with over 1,400 staff but no physical offices. He does not have any legacy issues to deal with. Like other Silicon Valley start-ups, Gitlab grew rapidly by employing spin-up techniques such as software as a service (SaaS). Today the firm has hundreds of such SaaS providers e.g., Salesforce and Workday, creating siloed environments that can impede data flows.

Data integration across the multiple SaaS platforms is now the key challenge for IT and its business partners. Again, Bryan sees this working as a 'team sport'. When every tech start-up becomes a mirror image with respect to its choice of SaaS products, process and related data integration becomes the key competitive advantage.

Bryan emphasised the need to prioritise what a CIO should focus attention on e.g., Tier One process that drive the business, and what to ignore. He also mentioned that some level of governance was needed to eliminate multiple versions of the same SaaS resource such as five different document collaboration products.

Coping with continuous disruptions: The IT sector has experienced major disruptions over the last decade with the advent of cloud, mobile, social and data analytics. Would you expect such disruptions to continue or accelerate over the coming years?

Bryan Wise – VP, Head of IT, Gitlab said that he is fortunate in many respects to be the CIO of a digital native with over 1,400 staff but no physical offices. He does not have any legacy issues to deal with. Like other Silicon Valley start-ups, Gitlab grew rapidly by employing spin-up techniques such as software as a service (SaaS). Today the firm has hundreds of such SaaS providers e.g., Salesforce and Workday, creating siloed environments that can impede data flows.

Data integration across the multiple SaaS platforms is now the key challenge for IT and its business partners. Again, Bryan sees this working as a 'team sport'. When every tech start-up becomes a mirror image with respect to its choice of SaaS products, process and related data integration becomes the key competitive advantage.

Bryan emphasised the need to prioritise what a CIO should focus attention on e.g., Tier One process that drive the business, and what to ignore. He also mentioned that some level of governance was needed to eliminate multiple versions of the same SaaS resource such as five different document collaboration products.

Coping with continuous disruptions: The IT sector has experienced major disruptions over the last decade with the advent of cloud, mobile, social and data analytics.

Would you expect such disruptions to continue or accelerate over the coming years?

Julian David – CEO of TechUK stressed that in his long experience as an IT practitioner, the only constant is change. He listed three key development areas as:

- Hyper-connectivity between people and machines
- Artificial intelligence whose applications are maturing
- Data analytics that is the key to unlocking digital value

In his view, the main areas for CIOs to think about in the next two to five years include security, skills, data and managing legacy. He believes that automation will find its place in augmenting rather than replacing human beings.

Given this constantly changing IT landscape, what are the implications for the role of the CIO and how might IT organise itself for the future?

Julian sees a pivot in the role of IT from being 'a service to the business' to becoming 'the business'. This has important implications for the role of the CIO in the future and the way IT collaborates with its business partners. Again, he stressed the 'team sport' approach that other speakers had referred to.

Harvesting data assets: Have organisations been effective so far in harnessing the value of their data assets – and what have been the barriers?

Neil Lewis, Cloud and 'As a Service' sales lead, EMEA, Hitachi-Vantara believes that the answer depends on where you start from. If like Gitlab you are born in the cloud, you are likely to have data models that drive value. Incumbents tend to rely on legacy systems that were designed in the era of batch processing. These were not designed for data-centric enterprises.

In Neil's view, the barriers for harnessing data effectively are numerous and include:

- The exponential rise in data volumes and the associated increasing storage costs
- The lack of data standards due to silo applications and the multiplicity of SaaS services that inhibit data integration
- The necessary security and compliance controls that can inhibit access of key data resources in finance and other regulated sectors

The best approach to solving these problems is to employ a diverse workforce that includes people who have lived the new realities of digital enterprises. Also, to set clear guidelines to ensure that data convergence is a continuing process.

In conclusion, the speakers and delegates of the first panel 'near horizons' agreed that the biggest challenge for the UK CIO community was to grow the digital skills base. This will require constant investment at an enterprise and government level. Speakers believe that industry should find ways of offer sixth formers internships to give them digital experiences.

Prospects for the "Far Horizons": 5-10 years out

Full automation: How might emerging techniques such as RPA, AI and Low Code/No Code help to accelerate enterprise automation?

Vargha Moayed, Chief Strategy Officer, UiPath sees speed and quality rather than cost as the key imperatives of a post-COVID world. In this respect, organisations must digitise workflows and compress decision making down from months or years to days or weeks. Innovation is a key driver when digital challengers are biting at your heels. But incumbents suffer from hundreds of legacy applications that will take decades to modernise.

The advice here is to forget 'elegant' solutions and employ automation to find fast and pragmatic ways to digitise workflows. A new category is emerging called 'hyper' (Gartner) or 'full' (UiPath) automation.

What might be the future role of IT within the fully automated enterprise in 5-10 years?

The world of full automation will encourage co-production of business solutions using low code and no code tools. IT will take on a governance role around security, compliance, standards and talent scouting. IT can also support the use of process and task mining that helps determine where automation has the highest pay-back. In this respect, robotic process automation (RPA) and artificial intelligence can help optimise or reinvent work in the following ways:

- Substitute for human work where the task is highly repetitive and of low value
- Augment human workers where the task is variable and represents high value
- Create new work and associated revenues where cognitive intelligence can improve human performance

Quantum Computing is a powerful solution to maths problems. How might Quantum relate to solving tomorrow's business problems?

Steve Brierley - CEO of Riverlane is the founder of a UK company that is creating operating systems for Quantum computers. Quantum can address complex mathematical problems that have increasing application in the business world in areas such as drug discovery, industrial processes and crypto currencies.

The appropriate place to start applying Quantum is in application areas that today require high performance computing (HPC). With the advent of 'digital twinning' in logistics, construction, supply chain, Quantum can help solve complex problems.

What is the likely roadmap for Quantum Computing developments and when should the CIO community start to engage with such technologies?

Quantum has been around for nearly two decades, and commerce has begun to deploy this technology some five years ago. Corporates have started to invest money in this area just two years ago and we expect that this trend will grow rapidly. Just imagine that a Quantum computer the size of two postage stamps can replace the world's largest HPC computer – Summit! Steve is keen for members of our CIONET community to reach out to Riverlane to collaborate in new applications.

5G and Edge: How might such technologies help to transform current private networks into disaggregated structures based on public and hybrid cloud?

Fotis Karonis, Executive Vice President, Capgemini and leader of 5G and Edge envisages a hyper- connected world where telecommunications becomes the DNA

of every digital enterprise. This includes smart cities and homes, self-drive cars, healthcare and public service, utilities and energy. In this respect, 5G is more than a consumer gimmick. It provides the means to transform industry and transportation through sensors and IoT. Edge computing is an integral component of such a transformation, empowering end devices to be more intelligent and responsive.

Software enables network transformation, but it also become the core of all modern organisations. Cloud and virtualisation offer entirely new business models that incumbents must retrofit into their current structures. For example, a network of windfarms can interchange data to optimise output and ensure 24/7 uptime. 5G and IoT can be exploited by any physical asset to help extend useful life times as is the case with road repair. Small embedded sensors transfer vital information about surface erosion to help determine when maintenance should take place. Life cycle costs can halve because of proactive maintenance.

How might 5G and Edge help to transform today's operational structures and processes in areas such as supply chain and telecommunications networks?

We can expect ever more intelligence to be embedded in products such as home appliances and health monitoring devices. This can improve the customer experience and give suppliers and health specialists greater insight into performance and possible vulnerabilities. Sharing of data between parties becomes necessary as devices monitor a wide range of activities. This requires open architectures, based in the cloud, that encourages collaboration and data sharing.

Staying informed: How should CIOs monitor and evaluate emerging technologies to ensure that they can exploit such innovations ahead of their competition?

Sue Daley – Director Tech and Innovation at TechUK – Innovation stressed that CIO attention should remain focused on business problems rather than technology advances. The place to start is to agree business outcomes, be they about product innovation, speed, cost or quality. Having determined the problem, it become easier to select an appropriate solution that can exploit new and existing technologies.

One simple way of prioritising technologies is to categorise them into three classes – similar to the Gartner hype-cycle:

Emerging techniques that are still in the experimental phase and do not yet have mainstream commercial applications, for example Quantum computing
Key technologies that are delivering competitive advantage for industry leaders in specific sectors, for example RPA, 5G and IoT
Today's technologies that are applicable to all players and deliver no real advantage, such as mobile apps.
CIOs have busy agendas and need to prioritise their efforts in both the short and longer term:

of every digital enterprise. This includes smart cities and homes, self-drive cars, healthcare and public service, utilities and energy. In this respect, 5G is more than a consumer gimmick. It provides the means to transform industry and transportation through sensors and IoT. Edge computing is an integral component of such a transformation, empowering end devices to be more intelligent and responsive.

Software enables network transformation, but it also become the core of all modern organisations. Cloud and virtualisation offer entirely new business models that incumbents must retrofit into their current structures. For example, a network of windfarms can interchange data to optimise output and ensure 24/7 uptime. 5G and IoT can be exploited by any physical asset to help extend useful life times as is the case with road repair. Small embedded sensors transfer vital information about surface erosion to help determine when maintenance should take place. Life cycle costs can halve because of proactive maintenance.

How might 5G and Edge help to transform today's operational structures and processes in areas such as supply chain and telecommunications networks?

We can expect ever more intelligence to be embedded in products such as home appliances and health monitoring devices. This can improve the customer experience and give suppliers and health specialists greater insight into performance and possible vulnerabilities. Sharing of data between parties becomes necessary as devices monitor a wide range of activities. This requires open architectures, based in the cloud, that encourages collaboration and data sharing.

Staying informed: How should CIOs monitor and evaluate emerging technologies to ensure that they can exploit such innovations ahead of their competition?

Sue Daley – Director Tech and Innovation at TechUK – Innovation stressed that CIO attention should remain focused on business problems rather than technology advances. The place to start is to agree business outcomes, be they about product innovation, speed, cost or quality. Having determined the problem, it become easier to select an appropriate solution that can exploit new and existing technologies.

One simple way of prioritising technologies is to categorise them into three classes – similar to the Gartner hype-cycle:

Emerging techniques that are still in the experimental phase and do not yet have mainstream commercial applications, for example Quantum computing
Key technologies that are delivering competitive advantage for industry leaders in specific sectors, for example RPA, 5G and IoT
Today's technologies that are applicable to all players and deliver no real advantage, such as mobile apps. CIOs have busy

agendas and need to prioritise their efforts in both the short and longer term: analysing and optimising business critical processes is the best place to focusPartnering with business customers is becoming a 'team' sport in the opinion of many of the speakers. This implies widespread education in digital techniques across the employeesFinding the best solutions to business problems is the best way to identify and deploy emerging technologies. Avoid looking through the technology lens.In an ever more diverse and commoditised world of IT services and solutions, integration of workflows and data is becoming a critical competitive imperative,



About CIONET

CIONET is the leading community of more than 10,000 digital leaders in 20+ countries across Europe, Asia, and the Americas. Through this global presence CIONET orchestrates peer-to-peer interactions focused on the most important business and technology issues of the day. CIONET members join over a thousand international and regional live and virtual events annually, ranging from roundtables, programs for peer-to-peer exchange of expertise, community networking events, to large international gatherings. Its members testify that CIONET is an impartial and value adding platform that helps them use the wisdom of the (IT) crowd, to acquire expertise, advance their professional development, analyse and solve IT issues, and accelerate beneficial outcomes within their organisation.

cionet.com