



FROM STIFLING TO THRIVING

MODERNISATION MADE
EASIER USING GEN AI

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This article was written by [Mark Samuels](#), Chief Editor at CIONET UK. The content is based on an event sponsored by Thoughtworks held on 4 July at One Moorgate Place in London.

Context for the event

Legacy IT continues to stifle agility and innovation in many organisations. This event considered how digital leaders can accelerate legacy modernisation and deliver rapid benefits. CIONET UK Associate Editor Jon Bernstein hosted the evening. He was joined by CIONET members and the following Thoughtworks executives: Dilraj Aujla, Head of International Business; Julie Woods-Moss, Chief Marketing Officer; Shodhan Sheth, Head of Enterprise Modernization, Platforms and Cloud; and Ashok Subramanian, Head of Technology, Europe. The evening's discussions considered the following questions:

- Where is your organisation on its modernisation journey?
- What is holding you back and preventing full modernisation?
- Where can Gen AI unblock organisational challenges?
- How can Gen AI be applied to modernisation efforts?



Key discussion points

1. Where is your organisation on its modernisation journey?

Before asking Dilraj to introduce the discussion, Jon asked attendees to summarise their modernisation progress and key challenges. Several core issues emerged:

- Delegates suggested a broad mix of progress on the modernisation journey. Some organisations have made limited progress while others are crystallising their vision and others are focused on continuous improvement.
- Modernisation maturity varies. While some CIOs are digging the hole to build a foundation for modernisation, others are still trying to identify where to begin digging. Digital leaders need to secure funding before the modernisation effort begins.
- We are at an inflexion point with Gen AI. While some organisations have made limited progress on Gen AI, others are deploying and scaling emerging technology for established use cases. Data management, security, integration and governance are key issues that must be considered.
- Attendees often deal with modernisation using constrained budgets. A delegate said modernisation can be like changing the wheels on a bus rolling down a hill. There is no on/off switch for legacy systems. Modernisation doesn't necessarily mean moving from old to new. It's often about solutions being fit for purpose.
- Modernisation must be understood as a process and not just a technology challenge. To that end, one attendee applies a three-step methodology: foundations (cloud infrastructures), solutions (data analytics), and organisation (people capabilities are crucial to effective service modernisation).

2. What is holding you back and preventing full modernisation?

CIOs want to be experimental but emerging technology involves a bet – you can win or lose and must be prepared for either result. Many CIOs have to manage too many tools. Modernisation efforts are focused on the consolidation of software. Digital leaders who do look to emerging technology must explain how they exploit AI without taking a risk.

Senior leadership teams in heavily governed organisations are often risk averse. Some organisations are bound by frameworks and the requirement to balance the books. In slower-moving organisations, there is a route to funding but this pathway can involve long application processes. Some executives view technology as a capital investment while others see it as an operational expenditure due to the advent of the cloud.

Clarity is a key concern. Many business leaders see the potential of Gen AI but are concerned about value generation. Some organisations can't scale emerging technologies successfully because they lack an integrated data platform. Scaling AI projects is impossible without effective data management. Get your data sorted before you explore Gen AI. Deployment is faster once you work from a standardised data platform.

Some organisations are introducing staff awareness programs so people understand data classifications. Staff training and education is a constant and iterative process. If your people don't understand the role of models, they won't use them.

The speed of modernisation is a huge challenge. Experts often talk about a first-mover advantage in AI but there could be a last-mover advantage. Heavily regulated organisations might identify use cases for adopting AI but they'd rather let other businesses explore the technology. Carefully decide the pace at which you will adopt new technologies.

3. Where can Gen AI unblock organisational challenges?

The last few years, from the pandemic to the emergence of generative AI, have changed business perceptions about IT. However, it was agreed that emerging technologies must be proven before they're moved to production-level systems.

One delegate explained how their organisation goes through a four-stage process of identifying opportunities, running proof of concepts, scaling projects, and tracking value. It can be difficult to isolate an uplift in revenues. Use A/B testing to show your project has created incremental value. Be ruthless and kill initiatives that don't produce benefits.

Your success in exploiting emerging technology is related to the use case. If there isn't a strong use case for AI, your organisation should stop experimenting before it burns through cash. Don't buy a solution first and then find a problem to solve.

CIOs should be provocateurs for the use of Gen AI but it's up to line-of-business executives to point to the use cases where the technology will create value. The role of senior executives is to emphasise how Gen AI is a business project and not just another IT initiative. Think about how you can use incubators close to your industry to help foster ideas.

Attendees said Gen AI often involves low-hanging fruit, such as boosting productivity in sales and marketing tasks. Gen AI excels when prompted to deal with a corpus of text. However, delegates gave pioneering examples, including using AI to improve patient outcomes through personalised healthcare and using AI to bolster threat-intelligence processes. Attendees also considered the role of Gen AI in modernisation.

4. How can Gen AI be applied to modernisation efforts?

There is no silver bullet for modernisation. Legacy systems can't be easily replaced and the operational wheel continues to turn while your organisation tries to exploit new technologies. Moving away from legacy mainframe systems is a costly and complex exercise.

Modernisation is about defining fit for purpose. If a system is old but it works, use it. However, CIOs must recognise that technology is evolving at breakneck speed. Don't just focus on how a system works now. Think about how you will use older systems in the future and how you ensure legacy tech remains fit for purpose.

Modernisation isn't just about updating technology. Effective modernisation should focus on changing business processes. Don't leave technology to the side of business change. Think about how Gen AI can improve business processes. The right models help your business deal with legacy concerns and leapfrog to the next stage of digital transformation.

Apply Gen AI to small pockets. For example, think of the areas of legacy code that are tough to update because you no longer have the skilled expertise in-house. Also, analyse the make-up of older systems and use Gen AI as an assistant. Finally, focus on safety nets. Consider how Gen AI might help you prepare for an update to legacy code due to a change in regulations or new customer demands.

Conclusion: Three ways to use Gen AI to understand your legacy code base

Shodhan concluded the event with a brief presentation. Thoughtworks started building an AI tool last year, now in its third iteration. LLMs are traditionally good at understanding text but not code. The company's tool converts code into a graph. Thoughtworks is already helping clients to apply this tool. The tool has three modes of interaction:

1. **Explorer** – Allows users to see documentation about code through a browser.
2. **Graph** – Allows users to see connections between elements in millions of lines of code.
3. **Chat** – Allows users to move from abstract to specific questions about the code base.



Authors



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A pioneer of today's Internet as an ARPA research fellow at MIT in the seventies, Roger has spent over fifty years helping corporations harness the power of new technologies such as AI, 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 Cambridge University and MIT graduate and a visiting professor at the Hebrew University in Jerusalem.

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Mark is a business writer and editor, with extensive experience of the way technology is used and adopted by CIOs. His experience has been gained through senior editorships, investigative journalism and postgraduate research. Editorial clients include the Guardian, The Times, the Sunday Times and the Economist Intelligence Unit. Mark has written content for a range of IT companies and marketing agencies. He has a PhD from the University of Sheffield, and master's and undergraduate degrees in geography from the University of Birmingham.

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