Board Discussions

What Non-Executive Directors have been debating

March 2022

Part of The PwC Leadership Exchange

Contents

Introduction

PwC's programme for Non-Executive Directors is designed to ensure NEDs are up to date with topical Board issues focused on strategic matters, risk and governance. This document summarises the mainly virtual events held over the past six months and we hope you find it helpful.

The season began in September 2021 with a briefing on **COP 26 – a business guide** as the summit in Glasgow was rapidly approaching. This was an opportunity to reflect on the implications for business likely to emerge from the conference and to hear from an experienced NED who has been championing the climate change agenda on her Boards.

The next event looked at **Human performance analytics and new ways of working** which was particularly pertinent as the COVID pandemic has led Boards and their companies to reflect further on the health and wellbeing of their employees. Attendees heard about the findings of a PwC trial where 1,000 volunteer staff used wearable technology to measure biometric data and gamified apps were also utilised to collect cognitive function data which was viewed alongside a wide range of contextual data. Key findings were fed back to the staff members and, on an anonymised basis, used to influence management decisions. We were also fortunate to hear from Dr Phil Hopley of Cognacity on **Practical ways for business leaders to address mental health**.

In October, as one of our future-focused topics, we explored **Drones – use cases in business**, reflecting on which sectors this technology might play into, including how and when. Of more immediate impact was an event in November reflecting on **Hybrid transformation – strategies for a changed way of operating**. Many organisations have had employees returning to the office following periods of lockdown but still working from home for part of the week, and the implications of this for people, place and technology were considered.

Another event in November looked at **Purpose-led business – a CEO's perspective** through an interview with Alan Barlow, the author of a book 'Purpose Delivered: Bigger Benefits for Society and Bigger Profits for Business – A CEO's experience'. Purpose has become a focal point for companies, driven by demand from their various stakeholders, including prospective employees. As 'purpose-led' goes mainstream, this was an opportunity to delve into how to do this well.

Risk in all its guises remains a key feature for Boards and a further event in November was **Rethink risk – an agenda for action**. Recent events have served as a reminder that unforeseen risks can emerge from anywhere and there is a need for companies and their Boards to be broader in their outlook. Research with the public and across the business community, along with conversations throughout our global network, has led to the development of a collective agenda for action which was explored at this event.

Emerging technology and increased digitisation were common themes in a number of our interactive discussions throughout November and December where we covered **Boardroom leadership in a data-driven age, Cyber security – typical attacks and what might have prevented them, Online hygiene for NEDs** and **Transitioning from legacy IT to the Cloud**. Each of these focused on the current state of play and questions NEDs might reflect on with their Boards.

A final event in December looked at **Corporate distress, including in the supply chain** as various support mechanisms are unwound.

2022 began with a look at **Practical steps to address ethnic inclusion and diversity, including ethnicity pay gap reporting**. The panel-led discussion explored ways to progress this important agenda.

This followed on from a couple of sessions before the year end where small groups of NEDs experienced the virtual reality 'In my shoes' racial awareness training which all PwC staff are undertaking.

As usual, the year also started with **A global and UK economic update** from Dr Andrew Sentance and **A global political update – top 10 risks for 2022** given by Eurasia Group, the global political risk research and consulting firm.

Developments for **Audit Committees**, which continue to have a full agenda, were also an area of focus. Two workshops provided an accounting and corporate reporting/governance update, a regulatory and audit update including assessing the effectiveness of external audit, a spotlight on climate change reporting and a review of developments in pensions

For those on **Remuneration Committees** there were workshops on executive pay outcomes from the AGM season in the context of the pandemic, pay trends and wider workforce considerations. The importance of ESG measures in reward were also explored.

All of the events included questions and discussions as well as the sharing of ideas. As always, any feedback on the NED programme would be greatly appreciated and we very much look forward to seeing you at our in person events and virtual meetings in the future.

Kind regards

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March 2022

COP26 – a business guide

(September 2021)

The UK hosted the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow on 1–12 November 2021. The COP26 summit brought parties together to accelerate action towards the goals of the Paris Agreement and the UN Framework Convention on Climate Change.

With COP26 and strong net zero commitments from existing or incoming governments in the UK, EU, US and China, among other places, now is the time for businesses to act. In an increasingly competitive and fast-changing landscape, there are only two business cycles for companies to transform their operations to avoid permanently harmful global warning, and a window of only about one year for early movers to gain an advantage. Acting now is a good business strategy for the immediate future. It will also put early movers on 'the right side of history'.

This was an opportunity to explore the key areas of focus for business likely to emerge from the summit and the implications for Boards.

Presenters:

Bridget Jackson
PwC Chief Sustainability Officer

Emma Cox
PwC Partner and Global Climate Leader

Helen Jones
SID at Halfords Plc, NED at Premier Foods Plc, Fuller, Smith and Turner Plc and Virgin Wines UK Plc, and previously executive at Caffe Nero Group, Zizzi and Ben and Jerry's.

At a glance

- 1.5^0 has been agreed as the maximum global average temperature rise that is a 'safe' level and currently the average increase is already 1.2^0.
- COP26 aimed to:
  - complete the Paris Agreement Rulebook
  - achieve the climate finance goal previously agreed, with developed nations paying $100bn per year to developing nations
  - ratchet up actions by increasing Nationally Determined Contributions.
- Two key campaigns will actively engage businesses – the Race to Zero and the Race to Resilience.
- In some sectors new technologies will be required and scaling of innovation is needed.
- The mobilisation of green finance also needs to be scaled.
- NEDs can help in the climate change debate through:
  - governance and responsibility
  - climate literacy
  - turning commitment into action
  - ensuring a just transition.

COP26

2021 was a pivotal moment in the climate change agenda. Annual global temperatures have risen dramatically since 1850. Alok Sharma, the COP26 President Designate put the issue into words, saying, **'We all know that the next decade will be make or break for planet Earth and the warning lights are flashing bright red. This is our last hope of keeping 1.5 degrees alive.'**

1.5 degrees has been agreed by scientists as the maximum global average temperature rise that is a 'safe' level. Currently, the average increase is already 1.2 degrees which is a cause for real concern.

COP26, which was upcoming at the time of the event, was hosted by the UK in partnership with Italy under a rotating presidency that moves every five years. It ran for two weeks in November and there were a number of activities in zones as follows:

- Blue – the official, accredited zone attended by delegates from different countries
- Green – a complementary space for debate and showcasing solutions
- Fringe – other activities held by companies/organisations.

Despite the COVID-19 pandemic, COP26 went ahead in person. Steps had been taken to ensure vaccination of delegates/appropriate quarantine arrangements. However, there were also some virtual sessions in order to allow many more people to join the proceedings, and to maximise the positive impact of the summit.

COP26 aimed to:

- complete the Paris Agreement Rulebook (operationalising the agreement made in 2015), especially rules about carbon markets between countries (Article 6)
- achieve the climate finance goal previously agreed whereby developed nations will, from 2020, pay $100bn per year to developing nations, as well as agreeing a new long term climate finance commitment
- ratchet up action by increasing Nationally Determined Contributions with the aim being to 'keep 1.5 degrees alive'.

Over the two weeks, there were different themes each day and interested parties could join sessions virtually.

Under the UK's presidency, two key campaigns will actively engage businesses – the Race to Zero and the Race to Resilience. The former encourages non-state actors, such as businesses, cities, and financial institutions, to mitigate the effects of climate change via a pledge to both achieve net zero greenhouse gas emissions by 2050 and to halve their footprint by 2030. As of September 2021, around 4,500 businesses, 800 cities and 220 investors had joined the Race to Zero.

The Race to Resilience, on the other hand, invites non-state actors to take action on climate adaptation by making their operations, supply chains or customer bases more resilient, especially in areas where people are most vulnerable. It is estimated that 4 billion people will be particularly affected by the extremes of weather in the face of climate change impacts already locked in, mostly but not uniquely in developing countries.

However, in some sectors new technologies will be required. Many are known but still nascent. The development and scaling of innovations is urgently needed in areas such as:

- green hydrogen
- carbon capture usage and storage
- sustainable aviation fuel
- infrastructure for zero-emission vehicles
- green steel
- green cement.

The mobilisation of green finance, started by Mark Carney, former Governor of the Bank of England and appointed United Nations Special Envoy for Climate Action and Finance, also needs to be scaled and the Glasgow Financial Alliance for Net Zero (GFANZ) aims to do this through:

- greening finance – aligning finance to 1.5 degrees
- financing green solutions
- carbon pricing
- scaling and ensuring the integrity of voluntary carbon markets.

This is therefore going to be a decisive decade with huge opportunities but also huge risks for business.

Some of the key implications of the climate agenda for business are therefore:

- Climate change now heralds a decade of disruption.
- Regulations and policy will change rapidly and differentially in all sectors as country policy catches up with new state decarbonisation targets.
- New skills are needed in businesses especially in risk management, finance, procurement and R&D.
- There is a real shift from shareholder value to broader stakeholder interest, as ESG (environmental social and governance) comes of age.

There are a number of resources NEDs can use to help inform their approaches to climate change:

- the Effective Climate Governance principles developed by the World Economic Forum and PwC
- The Building Blocks for Net Zero Transformation report commissioned by Microsoft and produced by PwC
- The Taskforce for Climate-related Financial Disclosures protocol.

It was also noted that Chapter Zero, a not-for-profit organisation, provides access to many resources to help NEDs understand climate change and their role in ensuring companies are addressing it appropriately.

The role of a NED in the climate change debate

The political negotiations at COP26 can feel very removed from the role of a NED. Helen Jones noted that, as a NED, she is an advocate for action on climate change and shared some examples.

Governance and responsibility

Halfords set up a CSR committee in 2015 which did a lot of good work with charities. In 2018, they realised that there was a need to align their ESG activities with the corporate strategy. The company began work to find out what mattered to its employees in this area and two key points came back – championing the move to electric vehicles and diversity and inclusion. These were aspects the whole company could become enthusiastic about and goals, targets and a roadmap were set up. Investors had been exerting pressure in terms of the ESG agenda, Halfords' customers wanted it and, for employees, it was key to the retention of top talent.

It is important that the CEO is supportive of aligning ESG to the corporate strategy. In turn, the NEDs can bring their external experience to bear, including what they see through other Boards. There needs to be a big cultural shift for ESG to be fully embedded in business and having tangible targets and celebrating success is key. Halfords is well positioned to drive the shift to electric vehicles, and greenhouse gas emissions data was used to set science-based targets.

Climate literacy

Education is important. NEDs should take advantage of all available resources to upskill themselves, including seminars, independent reading and seeking advice from experts. Bill Gates book 'How to avoid a climate crisis' was mentioned as a helpful read. NEDs should aim to be well-informed without necessarily being expert.

Turning commitment into action

At Halfords, setting science-based targets was a big step forward. Other Boards are only just thinking about their ESG strategy. Each company needs to work this out by understanding the role they can play in the climate change agenda, align ESG action to their corporate strategy, set targets and make people accountable. NEDs need to be a champion for this work and not just see it as a corporate governance exercise.

Just transition

To ensure a just transition, there is a need to reflect on both the positive and negative consequences of climate change. Halfords is a UK centric business and, as has been noted, the impact of climate change will be felt disproportionately by poorer countries. Halfords needs to thoroughly examine its supply chain and ensure this operates as ethically as possible, as well as supporting suppliers as they reduce their own emissions (e.g. packaging).

Open forum Q&A

Will nuclear energy be discussed at COP26?

Nuclear energy will remain a key part of the energy mix but each country will make its own decisions on which sources to use.

COP26 will undoubtedly be a challenging 12 days. What do you think are the key pinch points?

The Nationally Determined Contributions (targets set by each country) are still falling short of what is needed and must be improved. Climate finance, particularly for developing nations, is crucial and is a matter of political trust. There is a real need to demonstrate momentum and show that the tide is turning – from both businesses and states.

It is great that so many entities have signed up to net zero by 2050 but the next decade is really key – will there be any visibility on this?

COP26 is largely about getting commitment. The next COP in 2023 will look at the progress that has been made since COP26, with more scrutiny of how non-state actors move from pledges to performance.

Open forum Q&A (Cont'd)

What do you expect the impact of COP26 to be on business?

So far we have spoken about climate change mitigation and adaptation. However, nature and the ecological crisis are also important. A Taskforce for Nature-related Disclosures (similar to the Taskforce for Climate-related Disclosures) is being established. In due course companies will also need to look at their exposure to biodiversity loss. All of this will need new skills and new ways of thinking. Business also needs to focus on the just transition previously mentioned. There may be job losses in some sectors but new jobs will also be created. Businesses therefore need to work out how to engage with this skills transfer and collaborate to ensure it is a smooth journey.

What position will we be taking into COP26 on carbon pricing?

Carbon pricing is getting a lot of attention, particularly by GFANZ. It's a complex area and a lot of organisations are using an internal cost of carbon to inform investments but the price probably needs to be higher than that in current markets to really incentivse decarbonisation.

Did the science-based target setting at Halfords make the Board look at the scope 3 emissions in a different way?

Yes – this placed a lot more focus on scope 3 emissions. These are considerably more complex than scope 1 and 2 but need to be tackled. Doing this properly means engaging with a large number of employees, procurement and beyond.

Did the Halfords Board realise they would be engaging with the whole company when starting out?

It was recognised early on that it is not enough to just engage the Board and the executive team. There is a need to win hearts and minds throughout the workforce, as this is a far-reaching issue and needs engagement from all parties.

How is the climate change issue being brought into Boards and the C-suite?

This has risen massively up the agenda over the past six months. Some companies are just starting out on the journey, others are facing regulation, some are experiencing disruption in supply chains and others are finding certain products will become obsolete. COVID-19 has not slowed this down and the expectations of business are not just climate-related but ESG more broadly. The fundamental shift is that climate change and ESG are now becoming CEO and C-Suite led and not just something looked after by the Chief Sustainability Officer. In any market, there are leaders and fast-followers but this is now seen as being an area of competitive advantage both at a business and at a country level. The UK Government is strongly promoting net zero amongst businesses and other countries are similarly promoting transition. Meanwhile, China is investing strongly in green technology. At a business level, climate action drives innovation and leads to the retention of top talent, as there is increased scrutiny of the ESG agenda by employees and citizens. In addition, there has been an increasing number of law suits targeting companies for their failure to act on climate change. Companies therefore need to fully engage with the agenda and bring the right capabilities into the organisation.

Are companies starting to build ESG metrics into reward?

Absolutely.

Are there any guidelines coming out on how to deal with scope 3 emissions including employee travel?

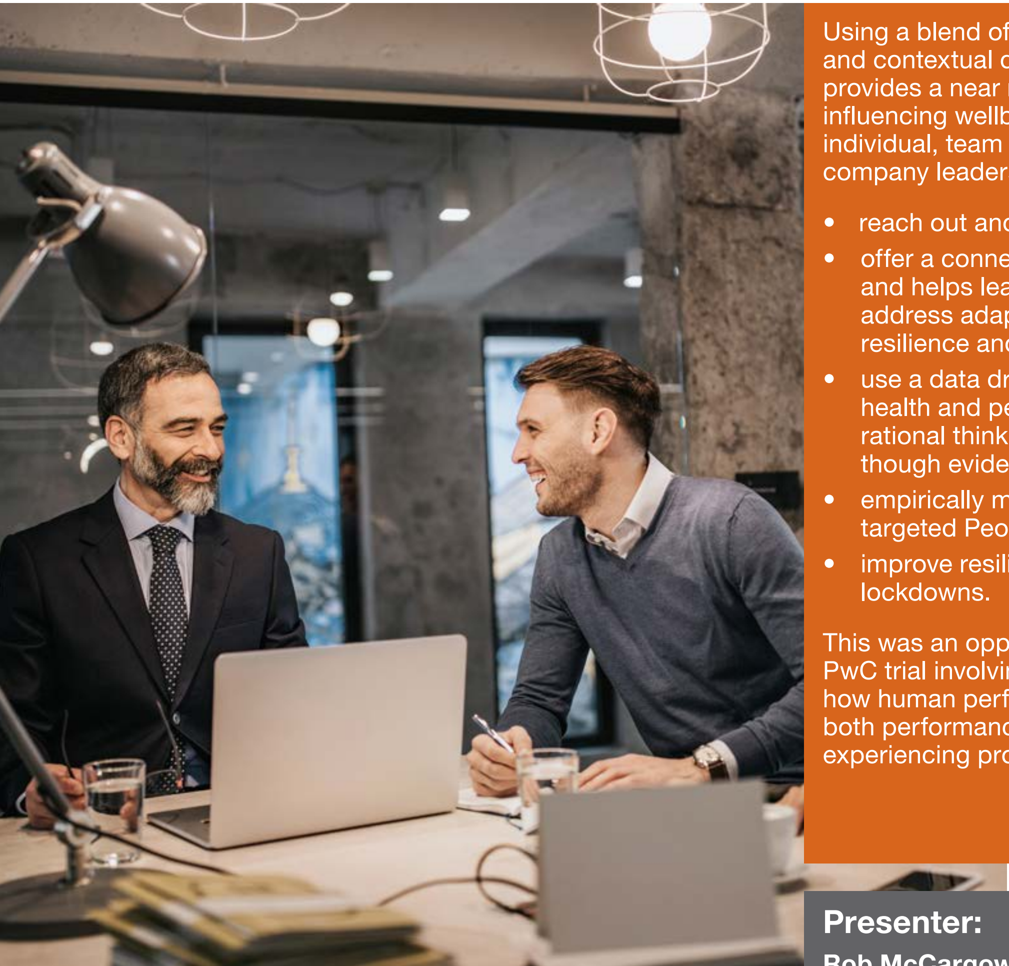
For scope 3 emissions, the Science Based Targets initiative sets out methodologies by sector including all scope 3 items, but it is a complex area. Regarding employee travel, PwC has a large business travel footprint and certainly if you have IT- enabled travel booking systems, it is easier to extract the data needed for carbon foot-printing, which can be calculated using DEFRA conversion factors.

The role of the NED at main Board level is clear but what about at subsidiary Boards?

If the climate agenda is set at main Board level, it should hopefully cascade down through the organisation and various governance structures.

Human performance analytics and new ways of working

(September 2021)



Using a blend of biometric, cognitive, psychometric and contextual data, human performance analytics provides a near real-time overview of factors influencing wellbeing and workforce performance at individual, team and organisational levels. This enables company leaders to:

- reach out and embrace a dispersed workforce
- offer a connectedness that protects the individual and helps leaders implement contingency plans, address adaptation, progress recovery, develop resilience and reduce churn
- use a data driven strategy on a remote workforce's health and performance behaviours to maintain rational thinking and build employee confidence though evidence
- empirically measure interventions and develop targeted People and Organisation strategies
- improve resilience during future crises or lockdowns.

This was an opportunity to hear about the findings of a PwC trial involving wearable technology and to explore how human performance analytics can help to address both performance and wellbeing in a workforce experiencing profound changes.

Presenter:

Rob McCargow
PwC Director, Artificial Intelligence

At a glance

- The enforced move to remote working in March 2020 has changed the way we work.
- Change has been further accelerated by global technologies and emerging megatrends.
- A PwC experiment saw 1000 volunteers using wearable technology to measure biometric data, gamified apps to collect cognitive function data, with a wide range of contextual data added to this.
- The data was than used to make changes to alleviate pressure points.
- Although technology and AI are key to human performance analytics, the broader implications – ethical, medical and regulatory risk – are also important considerations.

Context

Since the enforced move to remote working in March 2020, we have all changed the way we work and now have the opportunity to reconsider how we organise and deliver for customers. Different companies are taking different approaches. Change is being accelerated by emerging technologies and global megatrends. Unpredictable disruptors are transforming how, where and when we work.

A recent PwC ‘Hopes and Fears’ survey found that:

- only 9% of people wanted to return to full time working in the office
- 72% prefer a hybrid blend
- around 19% never want to see the office again.

The pandemic has also accelerated technology developments with:

- 60% worried that their jobs are at risk from automation
- 39% fearing their jobs will be obsolete
- but 80% are confident they could upskill with their employer’s support.

Although technology and AI are key to human performance analytics, the broader implications – ethical, medical, and regulatory risk – are also important considerations.

The 2021 PwC Annual CEO survey indicated that mental health has risen up the corporate agenda. There has been a significant focus on levels of productivity in remote workers, with some monitoring techniques – such as keystroke monitoring and facial recognition in front of a screen – raising questions around privacy and trust.

The PwC experiment

The PwC experiment originated from experience with the Red Bull Formula 1 team which had been developed to optimise performance across the entire organisation. There was a desire to test this in the business environment where it could help progress the journey to greater personalisation of work. The PwC experiment involved 1,000 volunteers wearing Garmin watches to measure biometric data, gamified apps to collect cognitive function data, and a wide range of contextual data including ‘diary-load’ and hours worked. The note to staff about the experiment saw more than 2,000 apply for 1,000 places within two hours.

A lot of time was taken to get the science and ethics of the experiment right up front, as well as building a team with deep experts including a doctor, a data ethicist, lawyers, etc. It was fully voluntary and included a representative cross section of the UK firm. The experiment ran for four months with a less than 5% withdrawal rate. Data was aggregated and anonymised by cohort for management review purposes. It was, however, important that there was a value exchange and individuals received personalised reports with real time insights.

Some key findings included:

- individuals were 20% more stressed in 2020 than in 2019, when a smaller cohort had been assessed, and 27% less active
- stress levels spiked around the performance review cycle but people’s awareness of being stressed was low
- 72% coped well with lockdown and remote working while 28% did not
- senior grades coped better with lockdown than more junior grades
- environmental factors had an important impact on sleep, e.g. those homeschooling and with no home office had the least sleep
- baseline activity was significantly higher in middle-aged groups than younger groups.

Although many of the findings were not particularly surprising, having the data to back them up was important in order to make changes to alleviate pressure points. It was interesting to note that people were not always aware how stressed they were when the biometric data illustrated that this was the case.

A key takeaway is that there is no ‘one size fits all’ in the new ways of working. Data by different cohorts could be used to illustrate the wellness of different business units and explore what has caused changes in this, allowing for course correction. In addition, the personalised data provided to staff gave them greater awareness of potential implications.

Now that PwC is moving to a hybrid way of working, the AI tool provides the data to support this. A new experiment is about to be undertaken involving all partners and 5,000 staff to explore things further. Data obtained will be used to guide corrective action and will reduce a previous over-dependence on employee pulse surveys. Staff wellbeing is moving up the corporate agenda and positive wellbeing data may give organisations a competitive edge in the future. A time may come when executive remuneration is linked to the wellbeing of the workforce and data will be needed to support this.

There has, however, been some negative commentary in the media and from some unions taking aim at a ‘big brother’ stance. For this reason, key considerations in undertaking a project of this nature are:

- extensive workforce consultation and co-production
- voluntary, transparent, ethically sound practice
- clear value exchange between employer and employees
- senior management participation
- get the governance, science and team right first and then apply the technology.

Ultimately, there is no performance without wellbeing and getting this right means that productivity should follow.

Open forum Q&A

Has it been demonstrated that productivity went up while working remotely?

It is difficult to say for sure as individuals may have been working longer hours. Commitment certainly seemed to increase.

Rather than a company running this for its own workforce, might a third party doing this help to build trust in the project?

This could well be the case given the greater level of independence involved.

Why have trade unions been against this idea when one of their roles is to support the wellbeing of their members?

They have potentially been influenced by negative, ‘big brother’ comments in the press. However, more recent engagement has been highly productive.

Presumably the data could help to identify institutional bad habits?

Yes – this may well be possible.

To what extent has this been tested for cultural differences? For example, in Germany there may be endless stakeholder engagement via Workers Councils but this ultimately leads to greater buy-in.

The experiments to date have been entirely UK-based but this would be an interesting angle to explore. Ultimately, any project needs to be led by what is in the interests of management and staff.

Some of the wellbeing factor comes from learning from those around you. How was this taken into account?

It is true that this face to face contact is needed. PwC’s strategy of 2/3 days a week in the office has largely been driven by the younger staff who want face time. However, the first experiment was conducted in a time of remote working and therefore the upcoming experiment in a time of hybrid working will be better able to reflect on this aspect.

Senior management participation is important so how was this achieved?

It was demanded upfront as a condition of the experiment. There is also precedent for this within the firm. For example, our New World New Skills upskilling programme for our staff has been led by the Board also taking part in the activities to emphasise its importance.

Where and how far is technology going here?

The technology can sometimes get a bad press. A key Board competence will be holding management to account around new technology. The need to use new technology in this digital age is clear but it needs good governance around this.

When there were team comparisons done, what was the definition of a team?

These were the PwC lines of service which each include several hundred people as there was a need to ensure that there was no risk of identification of individuals. However, it was possible to take cross sections within this and look at issues that might be developing, e.g. among young staff.

Open forum Q&A (Cont'd)

What were the actions taken to reduce the spikes around moderation as surely there will always be an element of stress where variable compensation is involved?

The process was compressed into too short a period and so it has now been spread more across the year. The impact of this will be looked at further in the next stage of the experiment. Stress is not always bad but sustained spikes can be detrimental.

When there are spikes of stress, does productivity change?

Yes, although this also depends on the definition of productivity which can vary. It is, however, helpful to have the tools and data to test things in real time.

One size fits all definitely does not work and stress is building among the young who may not always have practical working arrangements at home.

Agreed – it was known that this was probably the case but there is now data to prove it. The way PwC contracts with its staff is changing, particularly with the focus on the firm's purpose. Being able to demonstrate with data how staff are treated is helpful.

In international businesses there may be cross cultural issues with different territories.

Yes and therefore consistency across an international organisation may be difficult. Transparency may be interpreted differently in different countries and it takes time to build trust. There also appears to be a generational divide with the younger generation seeming to be more willing to share.

9%

of people wanted to return to full time working in the office

72%

prefer a hybrid blend

60%

worry that their jobs are at risk from automation

Practical ways for business leaders to address mental health

(October 2021)

Mental health has been rising up the corporate agenda in recent years but came to the fore in particular during the pandemic with many organisations focusing on how their employees were coping with repeated periods of lockdown, when some were also having to work from home and home school children. It is important that the focus does not shift from this area as people start to return to the more 'normal' ways of life promised by the vaccines. Employers should be aiming to ensure that as much attention is devoted to the mental wellbeing of their employees going forward as to their physical health and safety.

There are many ways of intervening, on a wide spectrum of issues, and so it can be helpful to identify a hierarchy of priorities. PwC has worked extensively with Cognacity, global leaders in mental wellbeing and performance, and this was an opportunity to explore:

- minimum duty of care requirements versus gold standard mental health approaches and the benefits of the latter to the business, including what questions NEDs should ask about policy development and implementation
- skills development in mental health care for selves and others so that NEDs are alert to issues that may be developing.

At a glance

- Mental health has been brought to the fore by the pandamic.
- 1 in 6 people in the workplace will be struggling with their mental health at any point in time.
- An employee assistance programme is a good start but should be supplemented by access to clinical services.
- NEDs should probe to find out what their companies are doing in this space.

Presenter:

Dr Phil Hopley
Consultant psychiatrist, leadership coach and founder of Cognacity

Context

Although mental health had previously been rising up the corporate agenda, it has undoubtedly been brought even more to the fore by the pandemic. The more often senior individuals/people in the public eye talk openly about mental health, the more the stigma is reduced. COVID-19 has had a significant impact on the prevalence of mental health problems with an increase of 40-45% in referrals in 2020/21 compared to the preceding year. This increase is highest in older adolescents and young adults.

Organisational duty of care in mental health

A mental health spectrum in the format of a bell curve was displayed showing mental disorder at the left hand end, moving through languishing and mental wellness to flourishing at the right hand end. At any point in time, 1 in 6 people in the workplace will be struggling with their mental health and 1 in 4 could at some point in their lives. It is probably fair to say that everyone has experienced some COVID-19 stress.

It is also worth noting that individuals move up and down the spectrum at different points in time. In an ideal world, everyone would be flourishing but even having everyone in a position of mental wellness would be an incredibly positive state of affairs. The languishing/burnout zone on the spectrum is important as it is often a precursor to mental health issues and being there should provide an opportunity to take action to prevent further decline, ideally a move towards wellness.

As individuals move from left to right on the mental health spectrum, psychological resources are drawn from different areas. In fact, any psychological resource will have a positive effect (whether changing mindset, exercising regularly, getting professional help etc.). Different resources can be applied to different populations at different times.

However, certain interventions like advisory and mental health awareness/education resources can be applied firm wide. Within PwC, there have been live mental health webcasts attended by as many as 14,000 out of 22,000 staff. These were shaped by a mental health expert but importantly included leaders of the firm. Where they could be open, honest and acknowledge that it was ok not to be ok, the impact was significant.

On the left hand side of the spectrum, for people with mental health problems, access to employee assistance programmes (EAP) and clinical services is available. Preventative strategies, such as resilience training based on Acceptance and Commitment Therapy (ACT) and Cognitive Behavioural Therapy (CBT), are a key driver of improved coping with chronic stress and therefore better wellbeing. Individuals towards the upper end of mental wellness or who are flourishing often benefit from specific performance or leadership coaching.

Tackling mental disorders on the left hand side of the spectrum is essential as the impact on health, quality of life and productivity is significant. We often see physical/physiological changes including:

- inability to concentrate
- fatigue leading to reduced energy, drive and motivation
- changes in sleep pattern
- changes in appetite
- social withdrawal
- anxiety, low mood.

These symptoms can all have a significant impact on our ability to function effectively. Some degree of provision should be in place for these individuals for an organisation to address its duty of care. An EAP, where individuals have access to a 24/7 helpline usually followed by a series of counselling sessions, is a good start but should really be the bare minimum. This should be supplemented by access to clinical services at Cognacity and elsewhere.

Lowering the barrier to seeking help is crucial and a 24 hour helpline with direct access to a Consultant Psychiatrist was set up by PwC during the second lockdown. For people with mental disorders, treatment will primarily be talking therapy with a need for medication in perhaps 12-15% of cases.

Burnout, as mentioned previously, is a precursor state to mental health disorders. It can be characterised by:

- negative attitude/thoughts
- high distractibility
- fatigue
- changes in sleep
- changes in appetite
- decreased productivity.

A number of these warning signs are similar to mental health disorders but come and go in shorter periods. People at home/closest to the individual may notice increasing irritability, snappiness or cynicism. The effort required to do something grows, due to a decline in focus and increasing fatigue, and things just seem harder to do. Therefore, it is essential for organisations to be alert to this and address these early changes. Resilience interventions include proactively encouraging people to recognise the symptoms of stress and work on their own self-care.

In the mental wellness zone, where there may not be any significant concerns, it is still essential to build on established mental wellness and not take an eye off the ball in order to avoid a slide towards burn out in response to modern work demands (a form of chronic stress). Wellness can be maintained through refreshing psychological resources. Encouraging managers to include a wellness check-in within their regular team meetings is a great way to make this part of routine work life and reduce stigma.

For those who are flourishing and are high performers, performance coaching can be used to sustain this. Small changes may be made to areas that may come under pressure in order to sustain high performance. This is about building on strengths to further optimise performance. Getting leaders to look at how they can lead effectively to maintain wellbeing in their teams is equally important.

Young people today have been educated in a different way at school and many recognise how important mental health is. As a result, this can be a differentiator for business. New joiners rightly expect that their employers will support their wellbeing not just work them into the ground. Therefore, leaders of organisations should visualise mental health across the spectrum outlined and think about areas and interventions that will deliver most impact. PwC has introduced a very successful mental health advocate team. These self-selected individuals complete mental health first aid training (MHFA) and are available to anyone in the firm in need of a conversation. Trained to support and signpost rather than intervene, they have made a significant difference to many people at PwC unsure of where to go with their concerns.

NEDs can usefully ask three key questions in their organisations:

- What is our approach to mental health awareness/education?
- How do we protect/enhance our people's mental health?
- What employee assistance programmes/programmed medical interventions do we provide?

There is usually a slow decline into mental health disorders and it is therefore important to remain alert and to empower people to take responsibility and prioritise their own wellbeing, whilst looking out for others.

Managing personal wellbeing

This is not generally an area of new information. In the modern era, we are surrounded by techniques and tips on managing wellbeing but we do not always properly reflect on these.

There are eight key psychological resources individuals have at their disposal:

Sleep

This is the cornerstone of good mental health. Devices such as a Fitbit can help to measure sleep without becoming obsessive about it. Individuals should avoid being on devices that emit blue light for at least 90 minutes before going to sleep. On average adults should aim for 7-9 hours per night but there is a wide range of variation.

Exercise and movement

This is no longer negotiable. The guidance is 10,000 steps per day for good cardiac health. This does not need to be difficult. Every day we can increase our movement in small sustainable ways – walk at home between meetings or just stretch near your desk, take the stairs not the lift, get off a bus/tube/tram early and walk one stop more, consider an early morning stroll or a late evening stroll. Take part in 1-1 walking meetings – it is no coincidence that innovative and creative ideas often come when moving as we evolved to think on the move.

Diet and hydration

Being dehydrated by 1-2% reduces cognitive concentration by up to 10%. It is a good idea to drink water constantly to remain hydrated – suggestions are 1.5 litres per day for women and 2 litres per day for men but it varies. Keep a bottle on your desk and take a look at urine colour. Urine should be a pale straw yellow colour – any darker and the individual is dehydrated or heading that way.

Regular recovery

Taking short, regular breaks is important. Every hour individuals should aim to take a 2-3 minute break minimum – get up, move, stretch, listen to a song, meditate, put the washing on, anything but sit still. We have learnt so much from the world of elite athletes where the periods of recovery are just as important as the exercise – in fact athletes pay themselves to rest properly.

Resource control

We often work under the illusion that people become successful by controlling everything which is nonsense. It is better to strive to control the 'controllables' only, because trying to control things that are out of our control increases stress.

Technology and wellbeing

Smart devices are only smart if we are smart in using them. Individuals should avoid being distracted by turning off notifications regularly. If we focus on a single particular work task for 25-30 minutes at a time, our productivity and quality of work improves. Multitasking has been shown to be an inefficient way of working and to be more tiring than single task focus.

Social connection

Opportunities for connecting with other people are important, even for introverts. We gain a fresh energy when we interact with others. Getting back to the office, if only part time, will be a significant boost for wellbeing, creativity and engagement.

Live life by your values

Aligning your personal values with what you do at work will bring a strong sense of engagement.

Open forum Q&A

How should somebody handle a career coaching/ salary discussion with someone who is in the languishing zone of the spectrum?

Their languishing should be acknowledged and you should point them towards the support available. However it is still appropriate to have an honest conversation about any issues. Talking about mental health rarely makes it worse.

Should mental health questions be built into exit interviews?

Yes. Gathering information on mental health is important at all stages of a career but people may often be most honest when leaving and points raised can be used to benefit others who are staying. Organisations will often learn a lot from the younger generation.

Has a combination of the pandemic and alcohol led to increased mental health issues?

Yes, especially as people may have had more access to alcohol through working from home. It can help an individual to relax and unwind but is never a healthy or sustainable solution. Many people don't realise that alcohol has a depressant effect on the brain and regular drinking is not good for the mood.

Higher turnover of staff is currently being seen and surveys have shown increasing issues with mental health. Will anxiety about returning to the workplace cause issues once people are back?

This is definitely already an issue and so it is useful to help people realise that any form of change causes anxiety. Taking steps to reduce this – for example, by having someone film changes to the workplace, or having someone talk about their return to the office – can help to reduce this specific worry. For some, active fears about the risk from COVID-19 will be the main concern. This increase in anxiety will continue but should tail off in the 6-12 months after work life finds a new equilibrium, hopefully in 2022.

Are there differences among different generations and should these be taken into account?

There are definitely differences between generations. For example, the greater mental health awareness among younger generations should be welcomed and capitalised on. We can all learn from their, generally, more open approach. This may in part explain why we are seeing a greater increase in rates of mental health problems in that age group – they are seeking help more readily. On the whole the approach taken to support and treat mental health issues is consistent across generations.

Does mental health represent an opportunity or a risk for business?

To some extent, these are opposite sides of the same coin. Previously, psychiatrists were only invited into organisations following a dramatic mental health incident such as a florid public meltdown or even a suicide. The risk now is overlooking this key aspect of people management and losing good people/developing a reputation for not caring. Now we have a great opportunity to create healthy and inclusive workplaces – places where people will not only want to come and work but where they will be prepared to go the extra mile because of how they are being treated.

1 in 6

people in the workplace will be struggling with their mental health

40-45%

increase in referrals in 2020/21

Drones – use cases in business

(October 2021)

During a time when organisations are under pressure to be more efficient, innovative and ambitious, and in a world that is currently increasingly virtual, drones offer a unique lens on the world below, providing new and valuable insights. Gathering data quickly and accurately from hard to reach places, drones create a single version of the truth in near real time. This can make a crucial difference to managing costs, controlling risks, increasing efficiency and influencing outcomes.

Drones are already providing organisations with types of data they have never had access to before, giving decision makers a more complete picture of their operations, programmes and assets. Key use cases include surveys and mapping, programme management, asset management and maintenance, public safety and emergency response, and environmental monitoring.

This was an opportunity to join a PwC expert in drone technology to explore how vulnerable existing markets/business models are to drone-driven disruption, whether companies have the talent, data and technology to respond to this, and how to build transparency and trust into drone platforms and applications.

Presenter:

Craig Roberts
PwC Drones Lead

At a glance

- Drones have the ability to add £42 billion to UK GDP by 2030.
- Three classes of air vehicles are likely to benefit consumers by this date – drones, advanced air mobility and regional air mobility.
- Once it is legal to fly autonomous drones, ‘drone in a box’ solutions will follow.
- Carrying weight over a long distance will be achievable in a couple of years which has implications for the middle mile logistics industry.
- Slower than anticipated adoption of drones is due to poor articulation of drone use cases and a lack of drone service provider credibility.
- Drone technology needs to be joined up with business as usual.

Context

A 2018 PwC report predicted that drones have the potential to add £42 billion to UK GDP by 2030. The same research found that there could be:

- £16 billion in cost savings
- 76,000 drones operating in the UK's skies
- 628,000 jobs in the drones economy

PwC is already routinely using drones in the audit and deals businesses, e.g. for testing stock volumes or providing a cloud-based visualisation of real estate assets, and we also assist clients with their drone digital transformations. The use of drones is particularly powerful when drone-captured data is effectively integrated with business as usual.

Future aviation technology

PwC recently conducted a study for the Future Flight Challenge (FFC), a £300 million programme which is part of the Industrial Strategy Challenge Fund. The FFC envisages three classes of air vehicles benefiting consumers by 2030:

Drones

These include unpiloted, non-passenger carrying vehicles varying from small to large. Although it is not currently legal to fly autonomous drones, this is likely to change and will lead, inter alia, to what is commonly referred to as 'drone in a box' solutions. Uses will include delivery and support services especially in emergency/security situations. Although, there are no volume drone deliveries in the UK at this stage, there are already consumer trials up and running in Ireland.

Advanced air mobility

These will be electric, vertical take-off and landing vehicles that provide short journeys for up to 10 people, sometimes referred to as air taxis. Momentum in this space is increasing because of the possibility of a seamless journey with less congestion, reduced journey time and increased consumer choice.

Regional air mobility

These will principally be 10+ person electric, hydrogen or hybrid aircraft providing short to medium range hops between fixed locations, again offering a seamless journey with improved connectivity and affordability. Effectively this is the electrification of existing services to be more sustainable.

Socio-economic study

The FFC study looked at the costs and benefits of applying new drone technology to existing use cases. Various externalities were considered using PwC's Total Impact Measurement and Management framework to cover economic, social, environmental and tax impacts. Six use cases were looked at in detail:

- Drones
  - powerline inspection
  - last mile delivery – prescribed medicines
  - cargo delivery – mail
- Advanced Air Mobility
  - rural air taxi
  - urban air taxi
- Sub-regional air taxi.

An overview of the key findings for all six was provided in the materials for the session but two were discussed in more detail.

Powerline inspection – this was in a remote location in Scotland where driving conditions were not easy. Using drones, the pilot would be able to be remote and the drone would fly BVLOS (beyond visual line of sight) with just one helper in the field to change the drone battery. Savings of 34% were anticipated compared to current 'in person' drone inspection and this use could be extrapolated to other sectors and assets.

Cargo drone – this looked at the delivery of 2,000kg of mail each way between Inverness and Kirkwall airports currently achieved by a manned turboprop cargo plane. Although the drone would need to make six trips because of the lower weight levels that can currently be transported, it can run 24 hours a day which gives greater flexibility. Similar savings of 35% were anticipated. Although this is not possible right now, carrying weight over a long distance will be achievable within a couple of years which has implications for the middle mile logistics industry.

Drone disruption

Following the Gatwick drone incident, a study in 2019 looked at industry's perception of drones. The survey indicated that the slower than anticipated adoption of drones by UK businesses was due to a poor articulation of drone use cases and a lack of drone service provider credibility.

Although drones were not considered to be used effectively by industry, benefits were expected from drone deployment. Those who already used drones found them effective, implying that the issue is perception.
Key findings included:

- 53% agreed that 'there is not a wide enough understanding of drones in general and so they are not considered' (16% disagreed).
- 52% agreed that 'more drone services would be used if there were more service providers with a credible offering' (16% disagreed).
- More than 50% of respondents thought that an industry-specific qualification would lead to more adoption and that a lack of clear, compelling evidence of specific benefits has slowed adoption.
- Only 33% agreed with the statement that 'drones have been embraced by my industry and are used effectively' (41% disagreed).
- Among those whose industry already uses drones, every benefit mentioned is seen as beneficial by more than 90%, indicating that those who have already adopted drones are satisfied with the benefits they bring.
- 78% of industry respondents said that saving time will be beneficial, 77% that safety will be beneficial and 76% each agreed that increasing productivity and digital transformation would be beneficial.

As mentioned earlier, there is a need to join drone technology up with business as usual. Drone efficiencies are enabled through standardisation of capture, processing and sharing steps, and deployment of visual asset management software that integrates with business as usual to increase efficiency, enhance collaboration, reduce risks and minimise carbon emissions. The organisational challenges of drone implementation can be addressed by following four steps:

- **Permission –** ensuring the necessary permissions and exemptions are in place for commercial operations.
- **Capture –** flight planning, Risk Assessment and Method Statement mobilisation.
- **Processing –** conversion from data to actionable information.
- **Sharing –** processed information shared with the company and integrated with business as usual.

Organisational challenges remain, however, including:

- Too much focus on flying drones and not enough on generating relevant data that is integrated with existing 'business as usual' systems.
- Drone data not shared effectively with all stakeholders ('democratised').
- Silo drone use resulting in data being captured to varying standards and inefficient use of resources.
- Lack of centralised governance and control.
- Immature procurement process for drone services risking higher costs and data that is not 'fit for purpose'.

NEDs can usefully raise the following questions in their Boards:

- Has the organisation considered the potential of drone technology?
- What game-changing openings are there within the market, and how can the company take advantage of them?
- How vulnerable is the company's business model to drone-driven disruption – and how soon will that disruption arrive?
- Does the organisation have the talent, data and technology needed to do this?
- How can transparency and trust be built into drone platforms and applications?
- If you already use drones, are you confident that you have adequate governance and controls in place?

Open forum Q&A

Can you comment on the social implications – particularly privacy and disruption – of using drones in the cargo delivery example in light of the six trips per day versus one trip currently?

Drones are now much quieter and the case study involved flights to and from airports which were outside of the towns involved. Privacy is a concern following the Gatwick incident and so drone delivery may be considered more ethical when it is used for delivering medicines as opposed to general shopping.

What are the potential security risks of sabotage/ other attack?

Following Gatwick, a counter drone solution industry has been developing to address these risks using AI and other tools. The risk does need thinking through carefully but is being addressed.

In your experience, has drone technology accelerated more or less than you expected?

It has been slower than anticipated due primarily to perception barriers and ineffective drone implementation. However, there are increasing examples of industries looking into this themselves rather than using service providers.

Where are other parts of the world on this?

Drone delivery is very advanced in China where deliveries are frequently made from warehouses to depots in remote locations with the last delivery mile then being performed by motorbike. Drones are also used to make deliveries to kiosks. China is not necessarily ahead on other use cases with the possible exception of drones crop spraying which is another common use in China.

There was a recent media article about a doorbell camera capturing data from a neighbour's garden and potentially also recording conversations. What should Boards be concerned about in similar situations, e.g. who owns the data and what can be done with it?

This is likely to be a key theme going forward with regulation likely to be developed further to address such instances. When PwC captures data for a client project, steps are taken – such as blurring faces and pixelating number plates to address potential GDPR issues – before the data is put into a secure cloud site for the company to access.

How long will it be before drones can be used to solve the truck driver shortage?

This is likely to be at least five years and will probably involve driverless trucks and drones working in concert. Trials of cargo drones are, however, likely within two years. Marrying autonomous transport with drones will open up a whole range of options.

£42

billion added to UK GDP by drones by 2030

76,000

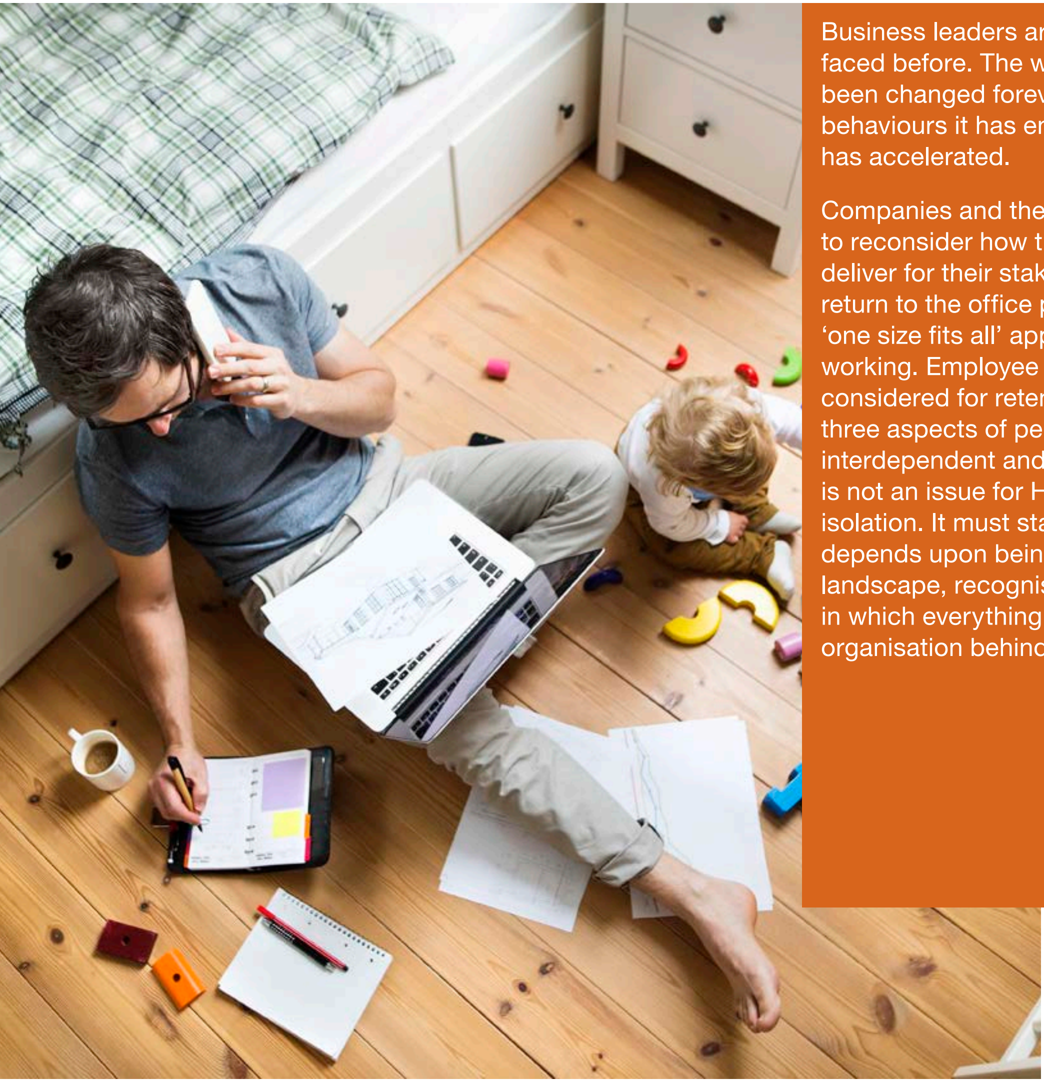
drones operating in the UK's skies

628,000

jobs in the drones economy

Hybrid transformation – strategies for a changed way of operating

(November 2021)



Business leaders are facing a challenge no leader has faced before. The way we live, work and interact has been changed forever by the pandemic, the behaviours it has engendered and the trends it has accelerated.

Companies and their Boards now have the opportunity to reconsider how they organise themselves and deliver for their stakeholders. When thinking about return to the office plans, it is clear that there is no 'one size fits all' approach or one 'right mix' of hybrid working. Employee preference and choice must be considered for retention and recruitment of talent. The three aspects of people, place and technology are interdependent and need considering holistically. This is not an issue for HR, IT or operations to deal with in isolation. It must start at the top, because success depends upon being able to view the whole landscape, recognise the complex and intricate ways in which everything connects and unite the organisation behind a clear strategy.

At a glance

- The whole landscape of work is changing with 72% now preferring hybrid working.
- Hybrid challenges are interconnected and a holistic approach needs to be taken to place, people and technology.
- The office needs to be thought of as a service 'where people want to be' rather than an asset.
- Employee preference must be factored in to recruit and retain great talent.
- Technology solutions need to be adaptable and cyber security becomes a top priority with a distributed workforce.

Presenters:

Craig Hughes

PwC Global Real Estate Leader

Vicky Robinson

PwC Partner, People and Organisation

Context

The world has changed. The way we work, socialise and go about our lives has altered and differs by country and indeed by region. There is no 'one size fits all' in terms of the hybrid transformation under way. Indeed, there is no destination to arrive at as the situation will continue to change and an agile model is therefore needed. A holistic approach looking at all areas together, rather than operating in silos, is vital as there can otherwise be unintended consequences. Taking net zero as an example, when everyone was in the office, there was a clear perimeter within which to measure activity but, with thousands working from home and an office still in existence, this becomes more complex.

The perfect storm

Trends being seen are:

- Preferences on virtual working are very personal. The topic has become polarising and is emotional.
- There is a general understanding on the part of both leaders and employees that the hybrid model of working is here to stay.
- There is divergence – organisations within the same sector are moving forward in different ways with individual organisations often changing their direction.
- Some organisations are taking this once in a lifetime opportunity to transform their business and avoid falling behind the competition. How far to go is a matter of choice.
- Employee expectations are high and a failure to maintain employee engagement could be damaging.

Some of these trends are not new – the rise in employee activism was already happening pre pandemic and has been accelerated. The war for talent now includes an element of 'war with talent' as more personalisation of working approaches is demanded.

The case for change

The whole landscape of work is changing, accelerated by COVID-19. Unpredictable disruptors are transforming how, where and when we work – which in turn affects how we interact with businesses, brands and employees.

- **Emerging technologies** are redefining how we interact with the workplace and each other.
- **Global megatrends** such as climate change are influencing what people expect from businesses.
- The **changing demographics** of the workforce are demanding more focus on wellbeing and ethics.
- **Automation of jobs** is impacting the types of roles available.
- We are simultaneously **more and less connected** than ever.

During the first couple of weeks of the pandemic, everyone was working out how to work virtually. Later, however, this moved to a questioning of why real estate strategy has remained unchanged in a digital age.

There are a number of benefits that an optimised hybrid organisation can achieve. From an employer's perspective, these include:

- employment cost savings
- reduction in office space and related operational expenditure
- increase in size of talent pool
- reduction in headcount
- increase in productivity
- reduction in office based carbon emissions.

There are also benefits from the employee perspective such as:

- reduction in commuting time and cost
- flexibility to live further away from the office
- enhanced career opportunities
- increased engagement through new digital skills
- flexibility to work where and when most productive
- opportunity to volunteer and support local communities.

Many companies are locking in changes to capitalise on these benefits. Others are more reticent and are concerned about creating a 'them and us' culture between white and blue collar workers or worried about the impact on company culture and behaviours, such as the ability to collaborate and co-create.

Business cases are often complex and are being looked at in silos, e.g. looking at the real estate portfolio in isolation from HR policies, and this all needs to be considered together. The key is to maintain the benefits of the hybrid model without jeopardising the team or the organisational value and taking into account client demands. In response to the changed world, the following areas all need looking at together:

- economic viability
- cyber security
- environmental and social
- legal/regulatory
- customer
- reporting.

Hybrid ways of working

Place

COVID-19 has reinforced how critical it is to have the right real estate strategy in place. Strategies have often developed over time based on traditional workplace concepts, many of which have been dispelled by the pandemic. It is a unique opportunity to rethink and reconfigure a company's workplace strategy, portfolio and cost base given the workforce, customer and external stakeholder mindset shift. The evaluation of a company's real estate has often not changed over the years and leases are often rigid and long term.

The office now needs to be a place people want to be. It should be thought of as a service (space) rather than an asset (real estate). Spaces are needed that individuals want to react in and many will use a combination of office, home and possibly a third space which means that security will become an increased area of focus. This mindset shift to space as a service needs to bear in mind that place has no destination and needs to be flexible and agile.

The PwC 'Future of the Office' survey found that:

- 77% are likely to reconfigure existing office space
- only 44% have a real estate and workplace strategy that considers workforce, technology, real estate and the long term impact of COVID-19.

At PwC, we are seeing our staff want to return to the office due to the opportunities it provides for collaboration, community, concentration, creativity, coaching and commitment.

As noted earlier, there are also ESG considerations to be taken into account, particularly if more employees are working from home. Even where an office is a low carbon building, there will have been carbon produced during the build.

People

When thinking about 'back to the office' plans, it is clear that there is no 'one size fits all' approach, or one 'right mix' of hybrid working. Employee preference and choice must be factored in to recruit and retain great talent, otherwise there is a danger bias will creep in, accentuating any pre-existing inequalities in the workforce. Organisations will need to reflect on how permissive they can be and whether a baseline position needs to be set out.

The survey found:

- 72% prefer hybrid working, i.e. almost three-quarters prefer a mix of face-to-face and virtual working.
- 83% of employers say the shift to remote work has been successful for their company.

Employees are also more prepared to resign if their demands are not met.

However, the position is not consistent across all employees. In some cases there are differences due to personality type but there are also demographic differences:

- 61% of employees aged 18-24 feel the least productive when working from home compared to 72% in all other age groups.
- Two-fifths of 25-44 year olds are significantly more likely to prefer a hybrid working approach.
- Employees with the least professional experience (0-5 years) want to be in the office more often (for learning, network building, etc.).
- Employees aged 48 and over would prefer to work from their office (which can lead to bias among leaders).
- Females are more likely to prefer three or more days of remote work than males.

Organisations need to take account of their employees' views and be inclusive to all. The workforce becomes disgruntled when either there is no clarity or when what is proposed is not what is wanted.

Data on productivity shows that this mostly increased during the pandemic but the issue is how to maintain this. There is a danger of alienating those who have no choice about where they work (such as receptionists). Wellbeing is also much higher on people's agenda now.

Hybrid working presents an opportunity to explore new talent pools while, at the same time, it might mean the end of location pay in some situations, e.g. if people move out of London. Inclusion and diversity assume heightened importance and there is a need to consider the impact on different demographics.

Technology

Integrated technology, a fully supported workforce and digital workplace strategy are key to a successful hybrid working culture. With this distributed workforce, cyber security needs to become a top priority.

It can be tempting to think this is all about the technology needed for communications and for people to do their job. However, technology is also necessary to gather the data for data-driven decisions, such as what is the amount of space being used and for how long. Advances in technology move at pace and there is therefore a need for technology solutions to be adaptable, possibly involving 'plug and play' elements rather than a five year technology transformation.

Technology also needs to adapt to cope with some people being in the office and others being at home. And it is not just about being back in the office but also being out in the market, at client sites, etc. so there is a role for data here. Technology will therefore play a key role.

Our survey found:

- 64% of workers believe that technology provides more opportunities than risks.
- 49% of CEOs plan to increase their rate of digital investment by 10% or more.
- 80% of workers are confident they can adapt to new technology entering their workplace.
- 48% of Board members place managing data and security in their top three issues.

The PwC story

PwC had been doing a lot of work around everyday flexibility even before the pandemic. There had been a move to collaboration spaces and an investment in technology (Google, Salesforce, Cloud). Now the plan is for people to work 40-60% from home and there is a need to improve the technology to cope with half a team being in the office and the other half not. The use of space and place is constantly being monitored. Decisions on the property portfolio going forward will be based on data.

The interconnected hybrid challenge

An illustration of what hybrid transformation might look like from end to end was discussed so that NEDs are able to work out where their executive teams might be and also reflect on whether they are approaching things in silos.

Finally, it was noted that hybrid challenges are interconnected. Decisions in one area are inextricably linked to another. These need to be considered together so that they drive the right performance outcomes and work financially. It is not as simple as just deciding how much time people need to spend in the office.

Areas for NEDs to reflect on in their Boards include:

People

Do you have the right 'deal' for your people that will allow you to attract and retain the best and diverse talent that fits with your purpose and social commitments? Have you considered the governance and operating model aspects? Is this an opportunity to widen your talent pool and tap into a more geographically diverse workforce? What is the impact on culture and behaviours, and have you considered the diversity and inclusion impact?

Place

Do you know what your workforce's preferences are regarding time spent in, and use of, office space so that you can work out how much and what space you need? Are you maximising the financial benefits of your half empty buildings?

Technology

Are you investing in the right technologies to enable effective hybrid working that will maximise productivity and enhance the employee experience? Can you measure and quantify the return on investment?

Environmental and social

Could a remote working policy have a negative impact on your net zero commitments if the parameters of your commitment were changed to include the home offices? What is the social impact of closing or relocating offices?

Cyber security

How are you managing the cyber risks that have been introduced with a remote workforce? Have you secured new technologies and simplified? How have you trained your workforce to manage cyber risks from working from home?

Customer

Does where your people work from have an impact on customer experience? What is the impact on your customer innovation through zoom fatigue? Can you foster a culture of innovation without in person collaboration?

Reporting

How are you measuring and monitoring the effectiveness of your hybrid model? Are you supporting diverse and inclusive working practices? Are you able to report and provide enhanced regulator assurance of the cyber risks from working from home?

Legal and regulatory

Have you considered contractual obligations to both employees and landlords due to increased remote working? Have you set rules for those who want to spend longer periods in their country of origin? Are there any regulatory limitations on remote working? Have you assessed the compliance obligations e.g. tax and immigration?

Economic viability

Can you afford the costs of an office refurbishment? Have you incurred additional tax liabilities from staff working outside the UK? Are there opportunities to access new talent pools overseas, and do you understand the tax implications of doing so?

Open forum Q&A

What are some of the potential pitfalls from an inclusion and diversity lens?

There is a need to look at the different demographics and try to design for all. Organisations will need to consider if they are opening themselves up to any legal issues, e.g. by providing a London weighting salary to someone who is spending 60% of their time working from home in a different part of the country. Also, if leaders recreate a culture of presenteeism, this can lead to people feeling excluded. The office needs to be a space where people can come together in a more inclusive way.

How will interaction work with organisations taking a different approach?

Even organisations in the same sector are taking different approaches, as every organisation is individual. However, 72% are thinking of releasing real estate. Some more innovative ideas include repurposing offices to staff accommodation or using real estate to bring suppliers, customers and others into the same ecosystem. Some companies are forming alliances.

What are the legal obligations regarding providing a safe place to work when people are working from home?

This is really a legal question. However, some companies have provided allowances to set up a proper home office and others do a virtual assessment of the employee's working set-up. There are also e-learnings regarding compliance with new obligations, e.g. working securely remotely.

A degree of flexibility must presumably be maintained to ensure executive teams do not jump to conclusions in a changing landscape – for example, with employment contracts if people had relocated but are now expected to be in the office?

This situation has arisen and has emotion attached to it. It's complex when some people can work from anywhere, some can only work in the office and others can work in either location. Many organisations are now setting some kind of parameters.

Have you seen any feedback on proposals for the use of the metaverse which is relevant here?

Nothing yet as this is probably all at too early a stage.

In order to avoid a siloed approach, is it necessary to have a single champion of hybrid transformation at Board level?

Those doing this well often have a committee looking across all areas with a single point of accountability. The agenda needs to be owned by the CEO, probably with an individual reporting to them from the Steering Committee.

What should the Board's focus be compared to that of the executives?

This will mainly be around the holistic business case and whether the strategy and economic viability stack up. In addition, the Board needs to know who is accountable and monitor the plan, looking at iterations and reviewing data to avoid the company becoming consumed by lots of major transformations.

Will women suffer due to the lack of 'water cooler' moments, if they are more likely to be at home for childcare reasons?

Certainly during lockdown, men and women without children experienced similar levels of well-being. Hopefully we will not see homeschooling pressures return and companies are looking at support benefits for childcare cover. However, more focus needs to be placed on 'digital behaviours and inclusion'. Interestingly, some leaders in PwC have recently used Natural Language Processing software to see if they value certain people's opinion more than others, or tend to be warmer with one person than another, or are more inclusive with certain groups/individuals than others. The use of technology in this way may increase.

How is productivity around dispersed working measured?

This is the holy grail and varies by different types of organisation. In a professional services firm it can be based on billing and revenue per capita. A tool called Perform Plus can help with digital scrums and there has been a look at those using this tool. Productivity is not always evenly spread and sometimes the top 40% were found to be working twice as hard whereas the bottom 40% had dropped off significantly. Over conscientious individuals working twice as much is not sustainable and needs to be addressed.

Purpose-led business – a CEO's perspective

(November 2021)

Many companies are rising to the challenge of adopting and delivering the purpose-driven corporate agenda of being a force for good in society as well as being profitable. The case for this is well documented. There is a need to rethink the nature and purpose of a company, the reason why it exists, and how its purpose is determined. This requires a fundamental change in mind set – namely, a paradigm shift from the primacy of shareholder value to the primacy of purpose.

However, as 'purpose-led' goes mainstream, there is a need for a shift in focus from the '**why'** and the **'what'**, to **'how to do this well'.** This has been accentuated by the impact of COVID-19, economic uncertainties and the growing concerns about environmental issues and socio-economic inequalities. Actual delivery of a company's purpose is under increasing scrutiny from its Board, shareholders, employees, customers and suppliers. In response, there is a growing and widespread use of Environmental, Social and Governance (ESG) measures by companies to demonstrate that they are 'doing good'. However, the FRC, in its **'Review of Compliance Reporting 2020'**, criticised many companies for their largely formulaic box-ticking compliance approach in reporting on the actual delivery of their purpose.

The challenge then for NEDs and their Boards is one of how to assess the success, or otherwise, of their company in delivering the defined company purpose. Consequently, there is a need for Boards to have a process for monitoring the extent to which their CEO and executive team are successful in executing their company's purpose, and for a set of proven non-financial and financial metrics for assessing the extent to which this is being delivered.

Presenter:

Alan Barlow – Former CEO of a multinational chemical engineering group and author of the book **'Purpose Delivered: Bigger Benefits for Society and Bigger Profits for Business – A CEO's Experience'** nominated by Routledge, the publishers, for the Financial Times/McKinsey Business Book of the Year 2021.

The event took the format of an interview between Alan Barlow and Dan Schwarzmann, Chair of the PwC Non-Executive Director programme.

DS: One of your primary motivations for writing the book appears to have been that you felt the case for the 'why' a company should be purpose-driven and the 'what' it should do was well-documented, but there was a gap in evidence-based business models for the 'how' a CEO should actually deliver on this. Could you elaborate on this a bit further please?

AB: There is a generational shift from the Baby Boomers' single stakeholder focus on maximising shareholder returns to Millennials' multistakeholder perspective and the view that measuring company success by financial performance is insufficient. The 'why' covers why a company exists and its reason for being – its purpose. The 'what' is about the required paradigm shift from the primacy of shareholder value to the primacy of company purpose. The FCA's November 2020 review of companies' performance in delivering their purpose concludes that they have to focus more on the 'how' to do it better – which is the subject of my book.

DS: In terms of how to achieve being purpose-led, you place a lot of emphasis on the role of the CEO. How vital do you consider this individual to be in driving a purpose-led organisation?

AB: Absolutely vital. The Board and the CEO are responsible for defining a company's purpose. The Board is the custodian of its purpose and the CEO is responsible for its delivery. A company's purpose must permeate throughout an organisation, its supply chain, its interaction with customers and the daily delivery of a host of decisions. The CEO sets, and is seen to set, the tone from the top. Then, it is how it is translated and implemented by middle and junior level leaders through their interaction with their front line people that is pivotal for actual delivery and success.

DS: The proposed business model for delivering a purpose-led approach is one you describe as the 'heightened integrity' model. Can you explain what this is and the elements or subprocesses that make it up?

AB: Leading and operating with heightened integrity is the hub of the model. There have to be high levels of trust, transparency and the highest level of ethical values, proactively, between a company's leaders and its people. The six processes of the core business process model for delivery of a company's defined purpose are:

Purpose statement – It must be big, bold, ambitious, authentic, practical and inspirational.

Stakeholders – The specific stakeholder that matters for delivery is an organisation's people. Most individuals want fulfilment and self-worth. They do not turn up for work wondering how to increase shareholder value.

Integrity – An integrity and compliance ethos must be embodied in the business. Purpose has to go beyond what not to do, i.e. compliance. It must include doing good, i.e. operating with integrity.

Leadership – Leaders' moral compass must demonstrate, and be seen to demonstrate, the right tone from the top.

Staff – There must be radical staff engagement and communication. It must be on the front foot and be face-to-face for authenticity.

Feedback – Close the feedback loop between leaders and staff. The acid test here is the extent to which a company's people will ask, and continue to ask, their leaders challenging questions.

DS: Chapter 5 of the book is given over to a case study demonstrating how the heightened integrity model was applied to a multinational company where you were CEO, with real life examples of how each of the subprocesses worked. What do you think are the benefits of setting things out in this way?

AB: The book goes beyond a typical case study about a company. It puts forward an evidence-based analytical model which is then demonstrated by application to the case study company. It goes further by benchmarking the demonstration against third party best practice and related metrics of what is expected of a purpose defined company. Hence, the model's wider applicability is verified. Finally, it is a practitioner's book by a CEO who has 'walked the walk'.

DS: What best practice financial and non-financial metrics do you think Boards should be using to monitor and review the extent to which their CEO and executive team are successful in executing their company's purpose?

AB: There are two main sets. Starting with behaviours is key and the metrics below come from Blueprint for Better Business. The financial/operational metrics come from the Big Innovation Centre and support the types of output the FCA is looking for.

Non-Financial/Behavioural, which encompass the 'How':

- Being a responsible and responsive employer
- Being honest and fair with customers and suppliers
- Being a guardian of the environment for future generations
- Being a good citizen.

Financial/Operational, which encompass 'Impact':

- Superior share price performance
- Improved accounting and operational performance
- Lower cost of capital
- More valuable innovation
- Improved recruitment, retention and motivation of employees
- Less adversarial industrial relations
- Larger firm size and decentralisation
- Smaller regulatory fines
- Greater resilience in the face of external shocks.

DS: You benchmark the case study against various third-party best practice metrics to provide evidence that the heightened integrity model works. Could you give a couple of illustrations here, particularly any that indicate how important culture and behaviours are within this?

AB: The right sort of culture and behaviour is key here and there is a need to ensure that it permeates the whole organisation. An illustration at the corporate level was when, in year two, a specialist third party was retained to assess a cross section of customers and suppliers. The results were awful – extensive dissatisfaction and quality issues. The survey was repeated by the same firm in year five and there were no dissatisfaction or quality issues. Honest and fair treatment of customers and suppliers is delivered by empowering people. Illustrations at the individual person level were when employees became critically ill (inoperable cancer, motor neuron disease) and family members were worried about their jobs and income. The individuals concerned continued as employees on full salaries, working when they were able to. These decisions were made by leaders in the company, not members of the executive team or the CEO. The right culture and behaviours of a purpose defined company are demonstrated when its people are treated as someone and not something, and middle level leaders are empowered.

DS: Why do you believe there is a need to go beyond reporting predominantly in terms of ESG metrics in assessing this?

AB: ESG metrics are important but they do not necessarily focus on matters that are material for a company to do good and not to do bad. A company's defined purpose must be the starting point and must drive the selection of material ESG metrics in a coherent, rather than selectively and disjointed, manner.

DS: In terms of delivering bigger benefits for society and bigger profits for business, you note that delivery of long-term sustainable performance can be demonstrated by looking at the types of capital that comprise a company's activities. Can you expand further?

AB: For the case study multinational chemical engineering group, these translate at a high level as:

- Natural capital – reduced depletion of natural resources resulting in a healthier environment
- Intellectual capital – world leading technical and operational performance of products at competitive prices
- Human capital – empowered employees
- Social capital – greater market efficiency/allocation of prices
- Financial capital – substantial shareholder returns.

Data was provided from the case study corporation for each of the forms of company capital.

DS: Finally, what are some of the key questions you think NEDs should take back to their companies in terms of exploring whether they are truly delivering on their purpose?

AB: Questions that relate to the individual, the CEO and the Board, respectively, are:

- Does your company's people satisfaction survey include a question such as: 'Is it safe for individuals to publicly ask all leaders challenging questions?'.
- How does your CEO monitor and review middle leaders' performance with their people for delivering your company's defined purpose?
- Would a report on the delivery of your company's purpose address all the concerns that the FCA reported in its review of November 2020?

Open forum Q&A

It is great that there was alignment and consistency between financial returns and returns to other stakeholders but were there times when there was a trade-off?

Yes. Three years after taking over as CEO, the company had been turned round and was very profitable. The Chair from the private equity owners wanted to budget for more than 20% profit growth in preparation for its sale. The only way of achieving this would have been through the cost savings of not recruiting the specialist staff required to ensure supplier and customer satisfaction. We would therefore not have been living our defined purpose The Chair was persuaded to reconsider. Another instance arose when our Italian subsidiary wanted to source kit for contracts in Iran from our US subsidiary, which was not prohibited at the time but was likely to become so in the future. The decision was taken not to go against future expected legislation, at the cost of highly profitable contracts in Iran. Ensuring delivery of the company's defined purpose led, however, to long term sustainable performance.

Will purpose-led business actually happen?

Yes – because Millennials and Generation Z are demanding this. Now a company's people are the fundamental source for creating its investment valuation, i.e. its intangibles such as branding, reputation, intellectual property, information/data/digitalisation/technology/networks. The root cause here is a twofold generational shift:

- In the 1970s and 1980s employees were a factor of production, with Baby Boomers subscribing to the single stakeholder view of maximising shareholder value. For the 2000s onwards, Millennials and Generation Z stakeholder values cover multiple identity groups and it is insufficient to measure company success predominantly by financial performance.
- The other generational shift is in the investment valuation of companies. In 1975, intangible assets accounted for 20% of S&P market cap but, in 2020, intangible assets account for 90% of S&P market cap.

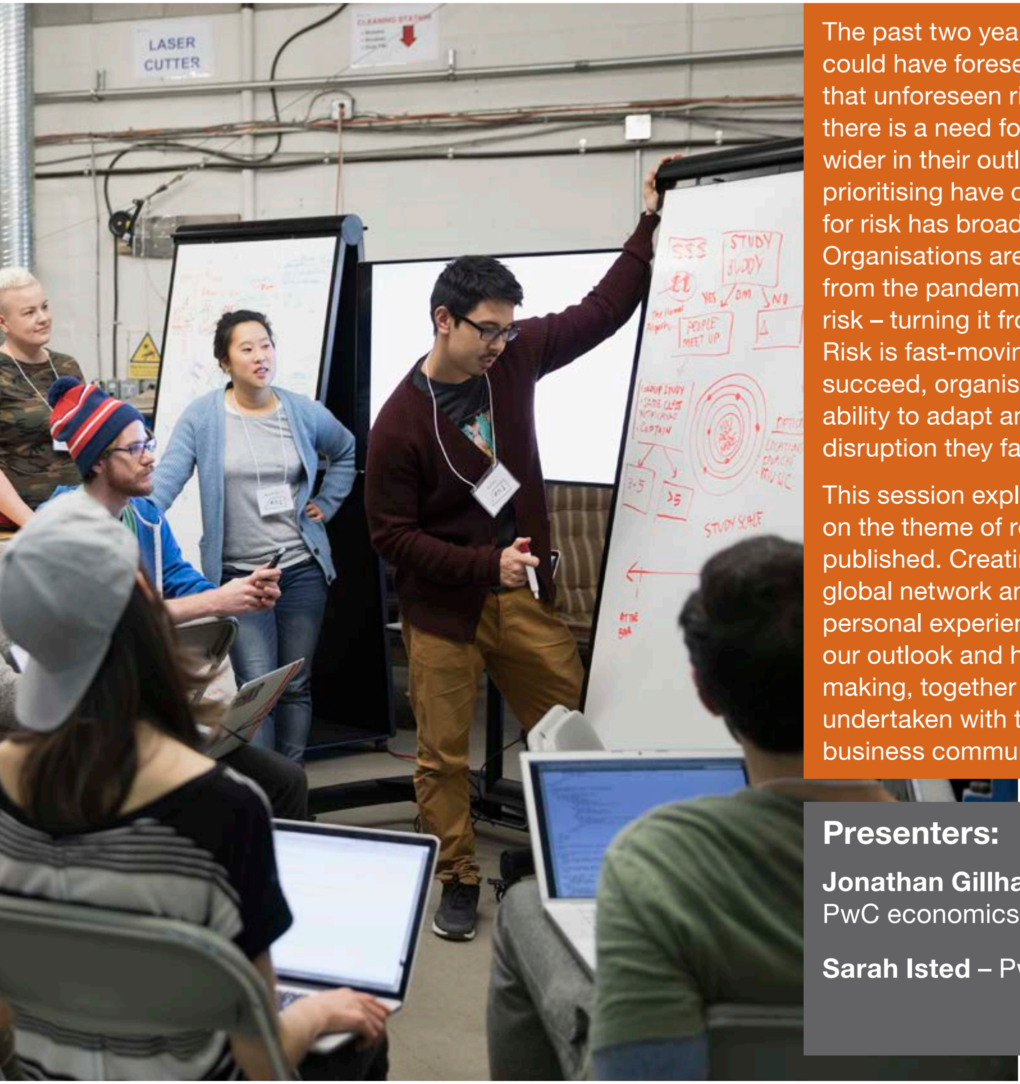
How can a Board maintain purpose-led momentum?

This is not a programme, it is a way of life. The financial and non-financial metrics provide an evidence-based basis for a Board to monitor and review delivery of its company's defined purpose in the face of changing circumstances.

Further insight can be found in Alan's book **'Purpose Delivered: Bigger Benefits for Society and Bigger Profits for Business – A CEO's Experience'**. (Routledge, 2021). Alan is pleased to respond to any enquiries (email: alanbarlow999@icloud.com) but is not seeking consultancy/business opportunities. He wants to get the message out on how business can be a force for good for society.

Rethink risk – an agenda for action

(November 2021)



The past two years have been a period that none of us could have foreseen. COVID-19 served as a reminder that unforeseen risks can emerge from anywhere and there is a need for companies and their Boards to be wider in their outlook. The risks companies are prioritising have changed as a result, and responsibility for risk has broadened across the organisation. Organisations are also harnessing the gains learnt from the pandemic and are imaginatively rethinking risk – turning it from a challenge to an opportunity. Risk is fast-moving, uncertain and unpredictable. To succeed, organisations must be resilient, with the ability to adapt and emerge stronger from whatever disruption they face.

This session explored a collective agenda for action on the theme of rethinking risk which was recently published. Creating this agenda has drawn on our global network and conversations about how our personal experiences of the last year have changed our outlook and how these are shaping decision-making, together with insight from research undertaken with the public and across the business community.

Presenters:

Jonathan Gillham/Nick Forrest – PwC economics team

Sarah Isted – PwC Risk Management Partner

At a glance

Risk has been pushed to the forefront of professional and personal lives more than ever. PwC's 10 point agenda for action is:

1. Reassess known and new risks combining short and long term views.
2. Invest in critical data and insight to proactively respond to changed, new and emerging risks.
3. Co-invest and share data across society to unlock insight on emerging and unknown risks for the good of all.
4. Be transparent about risks and actions taken to address risk to restore and build trust.
5. Set collective appetite for risk, opportunities those risks will generate and innovation.
6. Integrate and elevate risk as a core stategic priority.
7. Be clear on the purpose of your organisation and use this to consider and mitigate risk.
8. Retain pandemic speed and style of decision making and responsiveness to adapt to changing circumstances.
9. Create a safe space for risk and opportunity to be identified and shared.
10. Retain the pandemic spirit of collaboration and a sense of common purpose.

Context

When reflecting on economic forecasting in the context of risk, it can be tempting to take a very analytical approach (e.g. what if interest rates are 2% higher) or to look at everything as a single discrete risk to be managed (e.g. what if there is a conflict in one part of the world). There is a place for this kind of approach, but typically it is the interaction of multiple trends and events which create scenarios which need to be understood and responded to. PwC recently completed a major study that, following some rigorous prioritisation, has led to four economic scenarios into the medium term which are:

- smart labour market
- conscious consumerism
- deglobalisation in trade
- big government.

These are not exclusive and are explored further below.

Smart labour market

Technology has been advancing exponentially. We are now at a biting point regarding what technology can do to enhance productivity. In this rise of the machine, there is significant upward demand for high skilled workers whose wages are rising fast whilst demand in lower skilled sectors is in decline, with a decrease in wages in some sectors borne out of furlough.

The flow of workers is also affecting labour supply as 1 million workers have left the UK since the Brexit referendum, leading to negative net migration from the EU, even though migration from the rest of the world has increased. This flow has caused greater gaps in the labour market than were anticipated. Automation does provide an opportunity to increase productivity but this requires significant investment and will need upskilling at a local level to avoid challenges around inequality and job losses.

Conscious consumerism

The pandemic and its associated lockdowns have created a rapid change in priorities and attitudes to how and where people want to work. Increased home working is sticking and people are exploring their local areas more, with a greater focus on the neighbourhood and the quality of housing.

This has been accompanied by a change in spending patterns with a greater shift towards health and wellbeing, as well as the ESG agenda. This can present opportunities for levelling-up, with employees now having more choice. However, the impact could be uneven across the economy with some businesses aligned to traditional workplaces hit hard. Equally, businesses that lag behind in the sustainability, health and wellbeing agendas could start to suffer. There has never before been such a need to understand the desires and attitudes of both consumers and employees.

Deglobalistion in trade

This trend has been developing for the past decade and has been accelerated by COVID-19. Local production hubs are becoming popular again as opposed to complex global supply chains. Businesses that relied on offshoring have been suffering due to higher transport costs. There is, however, a question around how quickly businesses can 'reshore'. Germany has moved fast in this space and first movers may have an advantage. However, there remains a labour cost advantage for some goods to continue to be sourced from around the globe, but we may see more regional trade (Intra-Asia, US-Mexico, Europe and Africa etc.).

Big government

Government spending has been supporting workers and the economy through the COVID-19 pandemic and voters have welcomed this financial lifeline and the NHS safety net. Attitudes to key workers have changed, with wealthy individuals and 'big tech' now being more scrutinised. The Government has not been able to lead with spending cuts (unlike following the financial crisis) and this has led to 'bigger government' where more tax will need to be raised. A bigger government is an opportunity for those businesses who can engage with policy development and shape the resulting government programmes.

NEDs should reflect on how each of these four 'worlds' impact their businesses. Some recommendations to reflect on include:

Government

- **Build a strong and interconnected ecosystem** committed to a comprehensive upskilling agenda to tackle skills mismatch in the digital age.
- **Adopt an agile approach to driving targeted training and retraining initiatives**, working with businesses, nonprofits and the education sector to reduce long-term unemployment.
- **Continue trade negotiations post-Brexit with businesses in mind,** minimising trade disruptions and reducing costs of domestic production.
- **Develop a clear strategy to manage public finances and long-term fiscal risks,** supporting economic recovery while reducing social-economic inequalities and allowing issues e.g. climate change and an ageing population, to be addressed in a timely manner.

Larger businesses

- **Anchor upskilling and workforce investment** as a core business principle and make time-bound pledges to act.
- **Build a comprehensive supply chain strategy and cost management practice** to minimise trade disruptions which tend to affect larger businesses.
- **Consider supporting SMEs when onshoring or insourcing** to play an even stronger role in economic recovery and the Government's levelling up agenda.
- **Measure growth more broadly** through embedding sustainability, health and wellbeing in business strategies. This would potentially boost productivity, employee morale and investor confidence in the long run.

SMEs

- **Manage changes in economic conditions post-pandemic** by adopting an agile operating model, reflecting on the growing economic trends, e.g. localisation and hybrid working practice.
- **'Stand on the shoulders of giants'** through collaboration and knowledge sharing with companies with larger R&D capabilities.
- **Optimise the current workforce**, especially in labour intensive sectors, by integrating digital and automation at a smaller scale.
- **Win consumer and investor confidence and tap into the capital potential** by adopting sustainability and wellbeing practices. This would mitigate the risk of default when various elements of Government support wind down.

Agenda for action

Since the pandemic, risk has been pushed to the forefront of both professional and personal lives more than ever before. PwC started reflecting on how organisations should be thinking differently about risk and brought together insights from 12 months of research in collaboration with business leaders from across different sectors and industries.

Businesses cannot avoid risk but they can take steps to respond to emerging risks and changing circumstances quickly, collaboratively and sustainably, and NEDs have an important role to play in this. The responsibility for risk is broader than ever before and cannot just be left to the CRO. Many risks are common across sectors such as economic inequality, cyber security, climate change, the war for talent, etc. Our research has shown that, in order to face these challenges, organisations need to be:

- forward looking
- transparent
- resilient
- inclusive.

Be forward looking

Recent events have highlighted the need for organisations to be more proactive in scanning the horizon for risks, including everything from industry regulations to systemic global disruptions. A range of new threats is now emerging, many of which have no precedent, so organisations cannot use past events to predict what comes next. Instead, business leaders need to think about what they have learned in the past about handling major disruption and use this to prepare a flexible response to future threats.

Organisations need to use data in a different way – turning data into insights via new platforms and technology – rather than performing an annual review of a static risk register. The key takeaways are therefore:

- Data is key. Static risk registers alone, updated annually, are not fit for purpose.
- Develop tangible data insights – model and quantify risk so threats can be prioritised and measured using imaginative thinking.
- Invest in new platforms that bring different sources to generate new perspectives.

These lead to the following actions:

Action 1: Reassess known and new risks combining short and long term views.

Action 2: Invest in critical data and insight to proactively respond to changed, new and emerging risks.

Action 3: Co-invest and share data across society to unlock insight on emerging and unknown risks for the good of all.

Be transparent

In the days of 24 hour news and social media, transparency is critical. Organisations need to ensure they have a culture that supports this with people listened to when they speak up. Key takeaways are:

- Transparency and accountability are key for making people feel bought into important decisions.
- Are your organisations accountable to employees and wider stakeholders?
- Business leaders need to consider risk in the context of their organisation's strategic objectives and different challenges or opportunities.

This leads to the following actions:

Action 4: Be transparent about risks and actions taken to address risk to restore and build trust.

Action 5: Set collective appetite for risk, opportunities those risks will generate and innovation.

Be resilient

The pandemic has shown us that we are all more resilient than we might have thought but this resilience needs to continue. During the pandemic, organisations have been clear as to purpose and people have made decisions at pace. Key takeaways here are:

- Managing risk has to be broader than legal, compliance and regulatory requirements.
- Speed of thought and action will be crucial as focus shifts to the bigger challenges ahead.
- Remember the positive outcomes that were achieved through agile, responsive decision making and apply that to future risks.

The following actions result from this:

Action 6: Integrate and elevate risk as a core strategic priority.

Action 7: Be clear on the purpose of your organisation and use this to consider and mitigate risk.

Action 8: Retain pandemic speed and style of decision making and responsiveness to adapt to changing circumstances.

Be inclusive

The risks companies are facing are so interconnected and complex that real diversity of thought is needed to help mitigate them. People must feel able to speak up and there is a need to retain the spirit of collaboration that existed during the pandemic. Key takeaways are:

- Organisations must be willing to listen to different voices that can challenge entrenched habits and viewpoints.
- To get the full benefits of a diverse team, there must be a culture where people feel included and able to speak up and share their opinions.
- To find a sense of shared purpose, new ecosystems will be required to enable cooperation across different industries and across public, private and not-for-profit sectors.

This leads to the following actions:

Action 9: Create a safe space for risk and opportunity to be identified and shared.

Action 10: Retain the pandemic spirit of collaboration and a sense of common purpose.

Open forum Q&A

Are the economic scenarios presented likely to dominate in the long term and has there been a step change due to COVID-19?

Some of this has been known for years but the PwC research indicates that a biting point has been reached partly due to the pandemic. Businesses will adapt to new measures and will reassess risk accordingly. The long term challenge will be keeping up with the pace of change and setting up for this now.

Can you comment further on the access to capital and whether it will continue?

The situation at the moment is unusual. Wealthier households increased their savings while those on lower income ate into theirs. However, there has been a net uptick overall and there is therefore more capital to be invested globally. Some has ended up in less traditional domains such as Bitcoin but investors are still looking to invest.

How can people be persuaded to upskill?

There is a need for government and business to join forces on this and to tackle the issue creatively. Green jobs will also require upskilling.

Are there differences seen between generations?

Yes but generalisations can be overstated. In the previous financial crisis, a move to part time working was favoured among the young in particular but this has gradually swung back to a full time model.

How is productivity playing out in a hybrid world?

The key question is whether productivity is sustainable. In a recent PwC staff survey, engagement is higher among those who have been back to the office.

How does the increased localism play out versus Amazon?

Activities in inner cities, such as coffee shops, wine bars, etc. have been displaced to local areas but it is true that high streets have suffered as a result of Amazon's growth.

Aren't there some activities that will never be localised, e.g. chip manufacture?

Yes but there may be more regional hubs as is being seen in Europe with batteries. The ESG agenda will also drive this, with consumers being prepared to pay more if they are convinced of the ESG benefits.

How does near-shoring sit alongside Brexit and how does this square with skill shortages?

This may lead to some cannibalism and there is first mover advantage to be had. Companies who leave this too long may not be able to do it effectively due to limited skilled labour. Country risk assessments need to be taken seriously.

Many government 'levelling up' projects have failed so should the change be small/medium sized business-led?

In part, but not everything can be left to business and the Government needs to help with the development of hubs and steering the agenda.

Are the higher levels of inflation being seen transitory and how should these be managed?

Government debt is not a huge concern currently as spending on interest to service this is low so it is not too inflationary, although certain projects may be impacted such as HS2. Supply chain pressures may bring some challenges such that inflation could peak at 4-5% but some of this will be temporary.

What are the risks and opportunities of increased investment in technology for higher education?

Higher education definitely has a role to play here. Having universities linked to local R&D zones for local businesses helps and happens very effectively in some countries, such as South Korea. A broker may be needed to create links from business to business.

The actions emerging from the rethink risk agenda are somewhat aspirational – how can these be made more practical?

All organisations will be in a different place. A key first step is to move away from an annual formal review of the risk register and take a step back to reflect on what the organisation should really be worried about. There will always be someone in the company who knows what risks are out there so a culture that encourages upward reporting is important. Scenarios can be a useful tool as 'what would happen if….' often generates new thinking around risk. The risk register should also be looked at in different cuts so that, for example, high impact risks with low probability receive proper focus.

Open forum Q&A (Cont'd)

Does the culture of the organisation need to support rethinking risk and does the Chair have a responsibility for driving this and hearing from diverse voices at Board level?

Absolutely and the NEDs should challenge the Chair if they do not feel this is happening. The Chair also needs to unpack group think. Outside of the Boardroom, an open culture needs to cascade down through the organisation.

Are things likely to return to how they were in 2019?

Some businesses will have changed irrevocably. Others, such as manufacturing, may go back a little more to how they were but the reality is that the pandemic has just accelerated trends that were already developing.

How can historic data be used to predict the future?

Historic data has embedded information that enables prediction of the future to some extent but novel, real time and fast moving data is also being used now, such as restaurant bookings, with testing then being performed to check the correlation with more traditional data. Vat receipts have turned out to be one of the best predictors of productivity. The predictions can then be used to create scenarios and stress test.

NEDs are being told to access more data but what type should this be?

Financial and strategic data remain important but how data is presented is critical. It needs to be visual and provide the ability to be manipulated in different ways. Softer data such as stakeholder feedback and sentiment analysis is also more important. NEDs can pick up a lot by visiting sites and talking to people 'on the ground'. There is a need to think broadly about data sets and where these are coming from.

How can the pandemic pace be maintained, recognising that there have been some short term failures?

The Government has been pushing 'project speed' – getting shovels into the ground quicker and focusing on the assessment of investment versus value for money. However, the pace has been exhausting and cannot be maintained indefinitely. The key is to be clear on priorities and to not put up barriers so that issues go into a 'too difficult' bucket.

Boardroom leadership in a data-driven age

(November 2021)

Information is power. Companies are operating in a new age where business success is critically dependent on the quality, quantity and utility of the data owned – and on the ability to squeeze new business value from this data. In recent years there have been breakthroughs in technology which have fundamentally challenged traditional approaches to data and enabled new ways of working. Data is now a core business asset for many companies.

Yet many Boards struggle to talk about data in the Boardroom or to find effective ways of debating the choices and capabilities which will drive their digital future. They also find it hard to draw out the key ethical and legal questions about how personal data is used. Some discover they need different Boardroom skills, metrics and language for the digital age. The workshop was an opportunity to explore what has changed in terms of data assets and capabilities, the new business opportunities and challenges of a data-driven age, and what this means for Boards.

Need to know

- All companies are on a journey regarding data and most are at a reasonably early stage.
- The advent of cloud technology means that businesses are no longer constrained by their own processing power.
- The data-driven age brings new business opportunities both in terms of new sources of value and new ways of working but this comes with complex new risks.
- Dealing with data is not a technology challenge and there are some key foundational elements of a successful enterprise information management and data capability – see further below.
- NEDs should understand where their organisations are, what capabilities currently exist and what can be achieved.
- Cultural change is a critical success factor on the journey to be data-driven.
- Boards need to set ethical parameters for data collection, enrichment, use and retention.
- Regulation in this area is still catching up, although GDPR has had some impact.

PwC and third party experts:

Stephen Page, independent NED with a focus on boardroom issues for the digital age

Steve Mills, PwC Partner, Technology, Data and Analytics

Context

All companies are on a journey regarding data and most are at a reasonably early stage. Many are grappling with how far and how fast to go and some are still sorting out their core data. The age of data has transformed what is known, what can be acquired and the value that can be squeezed from this intelligence. The question for NEDs is how to assess capability in this area, expose and mitigate risks and bring the core choices into the Boardroom.

The age of data

The world has changed dramatically but data is still not much talked about in the Boardroom, especially in terms of being a strategic asset. Information is power and with this comes a degree of responsibility. Four examples were used to illustrate this:

- Consumer expectations now drive companies – with cognitive dissonance between 'don't you know who I am?' expectations and concerns over privacy.
- Sensors and devices drive automated decisions – such as Tesla which now has more than 5 billion autopilot miles processed with machine learning.
- Marketing has changed fundamentally – this is no longer a service function but core to how business is run and it is now possible to market directly to individuals as well as to the masses.
- B2B is becoming 'B2person' – with personal, and not just institutional, trust important which is addressing workforce mobility head-on.

The pandemic has been a catalyst for change and real-time streams of data are now challenging different ways of thinking. This is leading to a new skill set – both corporate and personal – as data is collected, enriched and utilised and this is all happening at great speed. Data can be processed very quickly and innovators move fast with new technology, including cloud, enabling this as businesses are no longer constrained by their own processing power.

Data science has also moved on significantly over the past decade. There has been a move from structured to unstructured data and there is now the ability to take a whole data set rather than a sample. Sensors are adding to data collected by humans and data is not just collected for a pre-defined purpose but to find out what it shows. In addition, there has been a 'democratisation' of data through giving individuals the tools and teaching them how to fish.

There is an open data world emerging which is likely to lead to smart cities sharing data. Analysts are starting to take data more seriously and M&A is now commonly used as a route to acquiring data.

An example was discussed to illustrate how much can be observed, acquired or inferred from an online customer interaction. Decisions can then be taken around permission, price, user experience and process, as well as whether to invest further in the relationship.

In this data-driven age, new analytic tools, skills and tradecraft bring disciplines together to solve technologist challenges such as:

- Volume – how do we process, retain and safeguard the huge amount of collected data?
- Veracity – what data do we trust and how do we process data we do not trust?
- Velocity – how can we collect data which arrives in real time, in rich streams and at speed?
- Variety – how do we handle so many different forms of data?

At the heart of all of which sits value – how to keep data integral to the strategic business purpose.

This, in turn, brings new challenges for the Board to address:

Tone and broad strategy:

- Courage
- Ethics and values
- Innovation strategy
- Commercial strategy ('who owns what')
- Ecosystem strategy ('who is in control', 'what's our role')

Execution and operations:

- Human skills at all levels
- Leadership mindset
- Legacy IT, processes, habits, speed
- Trust (in data, in partners…)
- Changing at the right speed vs customers
- Legality, data protection, cyber security, regulatory pressures
- An organisation model fit for new purposes.

The real art, however, is not in collecting and collating data but in connecting it.

The data-driven age brings new business opportunities both in terms of new sources of value and new ways of working but this comes with complex new risks. There is a need to address inhibitors such as sluggish pace, legacy IT, unwillingness to experiment, lack of desire to transform and poor skills – as well as avoiding new crises such as privacy breaches, availability, GDPR requirements/rights, variance from the agreed ethical envelope and unverifiable automation.

Market and capabilities

Over the past 18 months, there has been a massive uptick in the data world. There has been a digital transformation of core and operational systems in the cloud driven by the need for data. The deals-led recovery is also adding to this with organisations purchasing others and moving to cloud as they consolidate systems. The need for nimble insights is fuelling the drive for data. Nobody initially knew the questions they should ask when lockdowns happened and nimble insights are needed to answer these new questions. This is especially true in an era of hybrid working. However, this in turn requires trust in data. Modern platforms are constantly being stood up to support this data-driven age.

The transition to becoming a data literate organisation requires new skills, mindsets and levels of collaboration. Some areas of the organisation may be further developed than others, so it is critical to establish a strategy that brings business units and functions with varying levels of data maturity along the journey together. A classic data maturity model was discussed which moved from:

- Limited – data inconsistency, limited standardisation and integration, lack of ownership; to
- Functional approach – functional approach (e.g. finance) and governance, varied standards, limited ownership; to
- Evolving – data strategy and governance centralised but not standardised, limited adoption; to
- Integrated excellence – enterprise strategy and governance information is accurate and accessible for decision making; to
- Insight driven – insight driven business and operating model with a cultural shift in decision making.

Few companies are genuinely insight driven and most organisations are still evolving at a capability level, although the average industry intent falls somewhere between integrated excellence and insight driven. As organisations move up the maturity model, there is a move from operational reporting to diagnostic reporting, (albeit this is still 'rear view mirror'), then to predictive and prescriptive analytics and finally to cognitive analytics involving the use of AI.

Companies that do this well:

- focus first on embedding scalable analytics solutions into the way they do business today
- then seek to understand how they may do business differently tomorrow with data-driven process redesign
- develop a data-driven culture
- start small and grow using pockets of excellence that exist today
- focus on developing industrialised capabilities that can be shared, using existing packaged/SaaS solutions where inexpensive and cost effective to do so, or accelerating maturity whilst developing their own cloud architecture for the future
- continue to focus on solid data and information management foundations whilst developing analytics capability
- place accountability on business change leaders rather than IT.

NEDs need to understand where their companies are on this journey, particularly as organisations have needed to pivot quickly over the past 18 months. This will lead to an understanding of how data literate the business is currently, which can be compared to the organisation's appetite and where it wants to get to, as well as what competitors are doing. There can then be consideration of whether the right building blocks are in place and if they are appropriately joined up. Data needs to form a mesh that is shared across the organisation.

It is easy to think of the data age as a technology issue but this is not the case, although technology supports it and the evolution of cloud technologies moves business into an era of AI and machine learning where the capabilities are limitless. The options available today are plentiful and complex and the cloud enables 'shadow IT' to be stood up. The aim should be to ensure the business has what it needs without shadow IT springing up.

The right people are fundamental to driving and delivering on this. From a people and skills perspective, a range will be needed from data citizens (who expect data and technology to be able to do their job), through to data specialists, data engineers, data scientists and developers. The final three of these may need to be sought in organisations without analytical maturity as they are the enabling capability that takes data and moulds what the organisation needs. The Board needs to understand the capability that currently exists and what can be achieved with this. As a minimum, there is a need for someone to bring the data together and someone who can extract the insight from it, and a team can then be built from this over time. The business should be interlinked with the data function so that this is not just left to IT.

However, coupled with this need for talent, is the 'great resignation' currently being witnessed. The talent market is in a spin:

- digital transformation is driving an increase for talent
- there is a shortage of highly skilled and experienced cloud architects and engineers
- which is leading to wage inflation
- and in turn is leading to a large increase in churn across the technology and data sector.

The biggest risk to any transformation is the ability to retain highly skilled talent to ensure the transformation project stays on track over what may be a 1 to 5 year journey.

Cultural change is a critical success factor in a data-driven transformation. The business needs to come on the journey while at the same time ensuring they are doing the right thing by customers and other stakeholders. Leadership should start from the top with all stakeholders encouraged to take ownership. There is a need to connect with people emotionally, winning hearts and minds, and change can be encouraged by doing things differently (e.g. interactive experiences, gamification, etc.) and by linking change to reward and recognition to ensure it cascades through the organisation.

The PwC experience was briefly discussed as a case study as we have had to make traditional teams more technical as part of our digital transformation. This has been a three year journey to date and we have been upskilling everyone to use certain key digital tools, as well as enabling the sharing of innovation via specific platforms. People need to be made 'more dangerous with data' in a good way.

The age of data in the Boardroom

Five pragmatic ways were discussed in which NEDs could engage their Boards in a strategic look at data – from comfortable to courageous and from least impactful to most impactful as follows:

5. 'Probe the capability'

Talk to the CEO about how well today's business is adapting to the data age.

Ask about talent, leadership, mindset, legacy barriers. What hard choices have been faced and which remain untouched? Be curious about speed of innovation and the breadth of change. Ask how much courage is needed.

(And check on the level of Board engagement in data: a quick test is whether NED induction includes a data model.)

4. 'Open a programme or two'

When the next major initiative is brought to the Board, ask for a data perspective:

What data underpins this initiative and why do we trust it?

What new data will this initiative create and how can we exploit it elsewhere?

What do the CMO and CFO seek to learn directly/indirectly from the data created?

What data did we decide not to collect, and why?

3. 'Audit the asset'

Call a deep-dive meeting of the Audit (and/or Risk) Committee to look at data.

Start with data quality and trust leading on to difficult conversations about whether data is being nurtured as a corporate asset which can create greater value for the business.

Ask what success means for a data-driven company, and how to assure progress.

2. 'Confront the beast'

Ask for the Board to see an overall data strategy—this should be from the CEO personally.

Treat data as a core asset. Examine what is (and isn't) being collected, acquired, enhanced and retained, how that will generate business value and what risks/gaps are of concern. Find out what data is trusted, and how untrusted data is engaged with.

Test whether leadership culture is helping or hindering trust in data, whether innovation is sufficient, whether the 'data supply chain' is working, whether controls and risks are well managed. Is the business ready for automated decision making?

1. 'Envision the future'

Take an annual strategy day to focus on the business from its data outwards.

What kind of business will this be in 2/5/10 years, and for what kind of customer/society – and what is the role of data in that context? What gaps are there?

What does this reveal about the corporate strategy (e.g. role in the data ecosystem), management model/culture, systems and processes, products and services (including integration into customers' systems), M&A thinking? What's the big idea to address legacy IT? What is the shape of the talent strategy for a data-driven world? What ethical issues should be in the queue for Board time?

Boardroom conversations should also set the tone, encourage ambition and control risks. There need to be new conversations in the Boardroom around:

Opportunities

- What data do we have and do we trust it? What should we collect/measure/enhance/buy/sell?
- How can we harness data at scale? Can we use sensors or new techniques to get to n=all?
- With richer data, what could we automate (and why)?
- What creative new products/businesses are possible?

Risks

- What are our ethical responsibilities to customers/partners/staff on collection, retention, usage?
- As we do more with data, do our protective measures, and availability expectations, still meet our needs? Do we support all GDPR rights?
- How do we (and regulators) understand our basis for automated decision-making? Have we eliminated bias and unfairness?

Culture and management

- Who will lead our strategic use of data? Do they have vision, engagement skills, realism?
- Do we have a sufficiently innovative culture, backed by the right skills, tools and IT architecture?
- Do we take enough risks and encourage the right kind of innovation? How much 'failure' is permitted? Can we tolerate imperfect 'learning' in our products and services?

In addition, NEDs should confidently probe current data leadership and capabilities using the following questions:

Ambition/roadmap

- Where are we on the journey (hindsight, diagnostics, predictive, prescriptive, cognitive) and is this in line with our strategic position?
- Do we have a clear statement of purpose and does this link to a business value?
- Is our purpose realistic given where we are on the journey?

Technology, skills, data

- What can we do to reduce legacy IT's fragility and 'drag' on innovation?
- Are we leveraging new cloud based technologies to support our data journey? If not, why not?
- Do we have the right skills mix and approach to developing what we need in the future?
- Just how much do we know about our own data and what we do with it?

Governance

- Is data managed across the enterprise (vs in silos)?
- Do we have robust data governance which can encourage innovation and reduce risk?
- Do we have the processes to manage complex change?
- Who is driving 'the art of the possible' and is this individual influential on the C-suite?
- Who challenges us on what we can/should be doing with our data?

Boards also need to set ethical parameters for data collection, enrichment, use and retention. Ethical issues are not always reaching the Boardroom and there are many choices to be made between what a company could do with data and what it should do.

Some key Board questions that can be asked in this space are:

- Does our governance model give the Board control over ethical choices?
- What data is appropriate for us to collect and for what purpose(s)?
- What data should we throw away?
- Are we compliant with GDPR? Does our internal culture encourage good data practices?
- Is our processing lawful, ethical, robust? *
- Will our analytical processes yield fairness and transparency? Are there risks of implicit bias?
- How will we establish trust in decisions generated from our data? (e.g. verifiability, explainability, controllability)

* European Commission, Ethics Guidelines for Trustworthy AI.

Ethical frameworks for 'big data' are receiving considerable focus and may become regulatory in due course. For example, BSI is developing standards for data, the UK Government's Centre for Data Ethics and Information has worked on algorithmic bias, microtargeting and public sector data sharing, and is now part of DCMS. Proportionality, necessity and legality are key concepts.

Now is the right time for NEDs to weave data topics into the heart of Boardroom conversations and ensure that the right skills are in place to stretch vision, lead execution and foresee risks. Using 'matters reserved for the Board' as a place to raise novel and potentially contentious uses of data can be a way of elevating the topic.

Open forum Q&A

To what extent is quantum computing having an impact in the data space?

Quantum computing is still some way off in the commercial world, except perhaps in specialist areas such as encryption. There is a lot that can be done with existing technology and cloud capability is currently sufficient.

With AI capturing data and then algorithms manipulating it, is there an issue of not being able to engineer back to how a decision was reached?

'Explainability' is indeed becoming a focus for regulators and will therefore become a key Board topic. It is a complex area and responsible and explainable AI is still in its early days. Self-learning technology can be dangerous from an ethical point of view, especially if personal data is involved.

Is data being used in particular industries and sectors more than others?

Data is widely used in logistics and transport due to resource constraints, and in retail and consumer organisations in order to get close to the customer in a competitive market. Data is also being used more in real estate and property, particularly in relation to the changed hybrid working environment. It is also used in heavy industry, mining, etc. where data is gathered via sensors. Outside of industry sectors, net zero and ESG more broadly are other areas where data is gaining traction, for example in measuring the sustainability of buildings.

If you ask the CEO about data, are they likely to refer you to the CIO?

A good CEO will be able to discuss data. It is a strategic asset in almost every company, and the CEO is the responsible executive who spans the collection, stewardship, and value delivery of this asset. Furthermore, the CIO is only part of the picture – business unit leads, procurement, marketing and many other functions share responsibility for data.

Should all NEDs be given a minimum level of training in data knowledge?

Yes, given the criticality of data as an asset, the Board needs the right skills 'in the room'. Key competencies in driving strategic value from data include judgement and intuition, assessing progress and capability, innovating and setting values, i.e. how much is enough/too much. All NEDs probably need to understand the basics and then one or two NEDs with real depth of knowledge may be needed.

In the guise of people being prepared to take their own medicine, have Boards stepped back and thought 'what is our role here and what do we need to do it' versus the Board packs received?

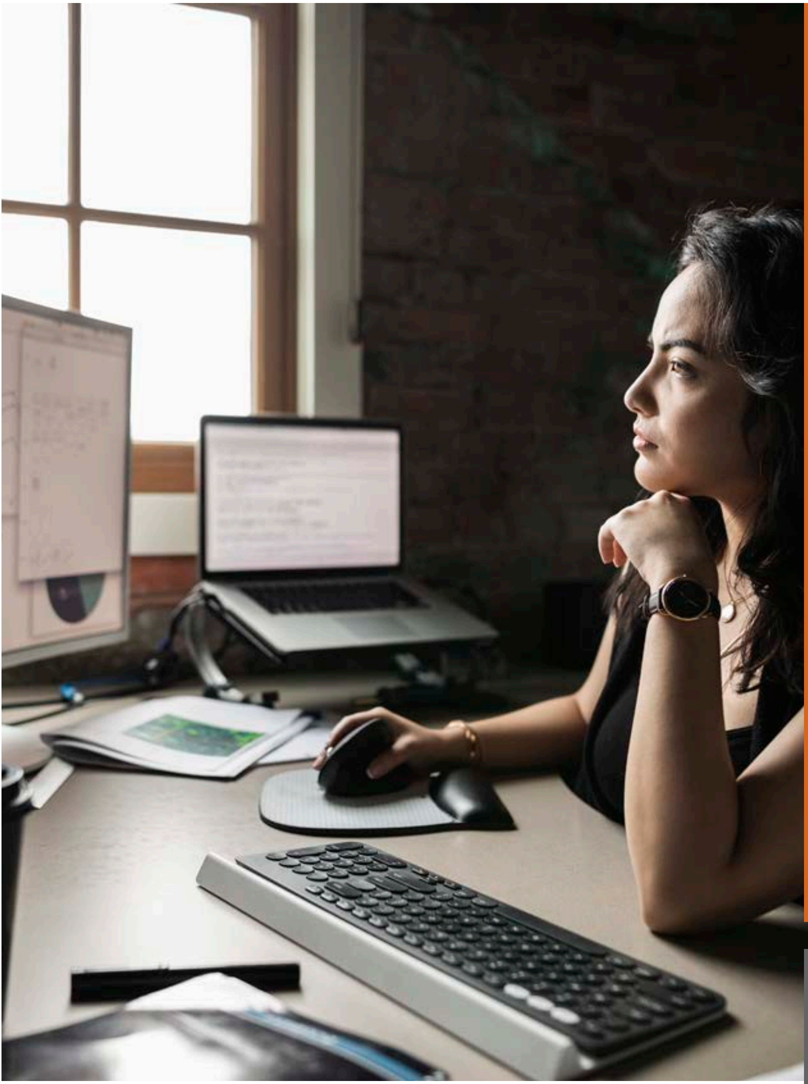
Board packs can always be improved but the questions that need answering won't always come out of papers. Boards should start from the business angle and then ask 'Where's the data that supports that?'. Old-fashioned intuition sometimes has a place but the world is more complex and moving faster so reliable data is important.

What is the likely cost of a data-driven transformation? Are we looking at step changes or a major investment to get to where companies need to be?

There is an associated cost but it depends on the company's starting point and the ambition. Small steps can be made to show value which will give rise to incremental costs. However, it will also depend on the legacy IT and whether it is worth constantly adding to this or if a major leap needs to be made to clear it out and start again.

Cyber security – typical attacks and what might have prevented them

(December 2021)



This briefing session was an opportunity to look at a series of real world examples of attacks as seen by our threat intelligence and incident response teams. Throughout 2021, there has been an exponential increase in ransomware attacks and data leaking following the greater reliance on technology as a result of the pandemic.

The session focused on the key vulnerabilities at the root of common attacks, how these are exploited and what organisations could have done to defend themselves. This approach aims to arm those attending with an understanding of the most common attacks, how they arise and the questions NEDs should be asking to ensure their organisations are better able to defend against them.

Need to know

- An incident is rarely the consequence of a single vulnerability.
- Ransomware attacks have increased exponentially during the pandemic.
- Key vulnerabilities at the root of common attacks are vulnerabilities in supply chains, unpatched operating systems or operating software, network access and control, misconfiguration of security systems and uncontrolled 'administrator' accounts. Social engineering and credential stuffing are also common.
- Administrator access represents the keys to an organisation's kingdom.
- Early and effective detection of an incident can save your brand and your cash.
- If attacks are inevitable, stopping them from spreading is essential.
- Third parties often have poorly controlled access to critical systems.
- Conventional resilience approaches are ineffective in the face of integrated cyber attacks.
- The operating model for cyber security and IT makes a critical difference.
- Simplifying the IT estate can also play a crucial role.
- NEDs were given questions to ask around each of these areas – see further below.

PwC experts:

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2021 threat trends

The 2021 threat landscape has been dominated by the following trends:

Ransomware – the most significant and rapidly evolving cyber security threat faced by all organisations, often coupled with data loss.

Supply chain – continues to be a prominent vector for attacks, especially where there are trusted relationships. In some cases, multiple threat actors have compromised the same 'supplier'.

The year of the 0-day – the discovery and rapid proliferation of high impact 0-days (a gap in software/technology that companies have zero days to fix) in highly prevalent technologies.

Social engineering – threat actors are more boldly engaging with targets, using social media platforms for more than reconnaissance, making business email compromise a continuing threat.

The exploitation of COVID-19 remains relentless – with State actors continuing to target vaccine research and criminal actors using the news cycle to craft new phishing lures to target businesses and consumers.

Nevertheless, it remains true that, while attackers are sometimes using quite sophisticated techniques, they are still exploiting the same key vulnerabilities. A lot of cyber security therefore comes down to getting the basics right.

An incident is rarely the consequence of a single vulnerability and the key vulnerabilities at the root of common attacks are:

- Supply chain – vulnerable third party systems exposing networks to attack as noted above
- Unpatched operating system or application software – critical patches often not kept up to date (not just 0-day)
- Social engineering – employees are often used as an attack vector
- Network access and control – who has access to what and should they?
- Misconfiguration of security systems – when a solution becomes a problem
- Credential stuffing – data breaches create new vulnerabilities with attackers collecting usernames and passwords and then trying combinations.

A number of breaches in the public domain were discussed to illustrate the above.

Business email compromise

In this situation, the emails of employees were hijacked via fake Office 365 updates. Once in the system, the attackers monitored traffic, carried out research on likely suppliers and were able to get to key finance personnel. They then identified invoices from genuine suppliers and submitted fraudulent invoices with payments directed to bank accounts under criminal control. What is interesting here is that an effective defence against this is not technical but around process. For example, if a supplier's bank account details are changed, there should be a phone call to a previously agreed number to check that this request is genuine. Multi factor identification can also help, i.e. not just a username and password to log on but also a code sent to a mobile phone or verification of the laptop being used.

Consumer data compromised by third party application

This breach involved compromising a third party chatbot and the key stages in this attack were:

- The online retailer introduced a third party chatbot.
- Attackers compromised this chatbot which was allowed to operate on the checkout pages of the website. The chatbot harvested payment card details and forwarded them on to the attackers.
- Initial suspicions of the compromise at the retailer were based on common point of purchase analysis done by payment card providers when fraudulent transactions were discovered.
- The actors responsible for the compromise were selling the data on a criminal marketplace.
- The retailer warned its customers of the data breach and notified the ICO which led to reputational damage.

This type of attack is relatively common in ecommerce. An interesting point in this case is that the notification of the potential issue came from the payment card providers based on circumstantial evidence and the company needed to decide at what point to act on this. It also highlights that innovative ideas in marketing to enhance the user experience, such as chatbots, need conscious thought and proper governance in terms of cyber risks that may be being introduced. It is important to apply cyber due diligence to the supply chain and to all digital/significant decisions, (e.g. M&A, etc.).

Compromised software supply chain leads to data breach

Attackers view organisations as an ecosystem and will often attack indirectly, i.e. via suppliers. In this instance, the threat actor got into the IT management software and inserted a 'backdoor' via malicious code that was activated when the next software update was applied. They then acquired the right to move across the whole IT estate with a high level of privileges. The target was the US Government and government departments, or suppliers to these, were targeted with a whole lot of data being exfiltrated. This attack was widespread as the software in question was in extensive use across multiple sectors but the data gathering was only activated in targets of interest. When companies reflect on who their people are, what they need to protect and where weaknesses might be exploited, they should be sure to include contractors and suppliers. Anomaly detection, such as escalating privileges and data leaving systems, also has a role to play here.

Misconfiguration of firewalls leads to data breach

In this incident, the attackers had been actively scanning for misconfigured access points. Although the data was encrypted, the attackers found the encryption keys as the organisation was transitioning to cloud and the software engineers took less care in protecting the keys. Companies should ensure there are no external vulnerabilities and should also avoid storing sensitive data (in this case customer records) on local area networks.

Ransomware actors gain access to network via unpatched server

This is very much the 'topic du jour' and has increased significantly over the past 18 months. What has been in the public arena is the tip of the iceberg and these attacks are devastating. In the particular case used as an illustration, the key stages were:

- Threat actors conducted an internet search for vulnerable servers and identified one with an 18 month old security vulnerability.
- The actors used a range of legitimate tools to map the infrastructure and identify key servers.
- Compromising access privileges enabled them to create new accounts on key systems.
- Ransomware was installed on key servers and backup devices and then activated.
- The organisation's operations were disrupted and backups had also been encrypted.

There are often two levers to a ransomware attack – data is taken out of an organisation to leak or sell and a programme is left behind to encrypt data.

A deep dive into the ransomware threat

Ransomware is currently the biggest cyber threat faced by organisations globally and continues to occupy headlines.

- High profile attacks impacting critical national infrastructure (CNI) have become a diplomatic issue between the US, other western countries and the Russian Federation, as many of the threat actors are Russian-speakers and probably located there.
- Despite high profile takedowns, asset seizures and arrests, the scale and pace of attacks has increased year on year.
- The number of actors engaged in ransomware operations has also continued to grow.
- Legal and/or regulatory action looks increasingly likely.

The number of actors leaking data has increased compared to last year, effectively weaponising GDPR, as has the number of 'double extortion' attacks, and more companies are now paying ransoms. Where ransoms are paid, attackers are generally delivering on their promises otherwise their business model would break down. Ransomware attacks on CNI have not been particularly common to date due to the government intervention that results.

The realities of responding to a ransomware attack are as follows:

- **Paying the ransom –** conflicting ethical, legal and operational considerations plus changing attacker tactics
- **Relying on insurance –** understanding whether you are covered and how you can maximise the chance of this
- **'Realities of recovery' –** IT environments are complex, information about critical systems is unclear and restoration is a significant challenge
- **Constructively engaging with regulators –** understanding your obligations, managing your response and taking defensible actions
- **Managing and coordinating the response and recovery –** organisations are often not prepared for the rapid and complex response required
- **Preventing further attacks and 'making IT securable' –** effectively addressing the vulnerabilities and root causes, and sustainably reducing risk.

One of the key areas for consideration in a ransomware attack is whether or not to pay the ransom and it is better for a Board to have reflected on this in 'peace time'. Those that do this well have thought about it in advance and run scenarios. Under the Proceeds of Crime Act, paying a ransom is not a criminal offence unless it is supporting terrorism but this will not necessarily be obvious. Also, in the US this is perceived as a national security issue which can lead to sanctions and therefore an organisation with US operations may not be able to pay a ransom. A whole 'industry' is developing in the ransom space with brokers who will act as go-betweens and intermediaries who will test decryption to determine whether data can be recovered.

Ransomware is on the rise as the attackers can make a lot of money, particularly following the trend in recent years to target organisations rather than individual consumers. It is also very scalable. The leader of a ransomware group often recruits affiliates (network exploitation experts) who are marketing themselves on the dark web. It is relatively risk free for the attackers, as ransoms are often paid in Bitcoin which makes them harder to trace, and barriers to entry are now low. A number of high profile actors sometimes withdraw only to resurface under a different name. Last year our threat intelligence team tracked 19 actors and double that number are currently active.

In the last 12 months, a number of ransomware groups have launched leak sites naming victims to increase the pressure to pay the ransom. Many companies are therefore paying ransoms and the size of the demands is increasing, although careful research will often be done on the affordability by accessing insurance and financial information. Often backups are being deleted rather than encrypted which means that paying the ransom is the only way to recover the data.

However, even if a ransom is paid, it will still take time to restore affected systems and integrate new operational data generated while the systems were down. Moreover, the attackers may retain access to the network and could attack again or may result in a need to rebuild if they are still in the system. Experience of ransomware attacks has shown that the first three days are often spent discovering the breach and setting up WhatsApp groups/other means of communication, the next three weeks are used to understand what has happened and get core infrastructure like the corporate email system up and running, and then the next three months are for a fuller recovery, often with a long tail.

NEDs can usefully ask how a company would continue operations if its IT was attacked. Simplifying the IT estate can be an important mitigation against attacks as it is hard to keep complex estates up to date. Ransomware attacks can quickly become a NED issue in terms of the company's ongoing viability if its systems are unable to operate which then goes to the heart of a director's fiduciary duties in terms of going concern. However, NEDs will also consider how ransom payments sit with ethical considerations.

Finally, when thinking about supply chain risk, NEDs are encouraged to think broadly and consider a range of suppliers such as:

- IT managed service providers
- business process outsourcers
- hardware/software suppliers/operating technology
- physical goods providers/key manufacturing
- professional services suppliers
- partnerships and joint business relationships
- cloud service provider.

Risks include direct disruption, indirect disruption, data loss, data integrity and brand damage.

Common themes

A number of common themes run through the examples that were discussed:

- Administrator passwords – once an attacker has these passwords they have the 'keys to the kingdom'.
- Cyber hygiene – many attacks start from exploiting old vulnerabilities/missing patches which have been fixable for years.
- Security monitoring – attackers often spend weeks/months on reconnaissance and can therefore be detected if the right monitoring is in place.
- Third party risk – attackers will focus on the weakest link in the chain and use indirect attacks to achieve their ultimate objective.
- Network segmentation – breaches happen so it is important to contain any spread. Networks should not be entirely flat – separate risky and critical operations and protect what matters.
- Resilience planning – conventional resilience planning focuses on physical disasters but this is inadequate in the face of cyber attacks.

Several of the above key areas where NEDs could usefully focus were then explored. For each there was a look at the common challenges, why they matter and strategies for improvement.

Administrator access is the key to your kingdom

Privileged user access is frequently an issue and is often not appropriately managed in organisations. This has been particularly critical during the pandemic when privileged users may have switched to working from home. Companies should know who has this level of access, why and when it will be stopped. Privileged user access is not always restricted to the company's employees and is sometimes not turned off following a systems implementation. Organisations should reflect on whether there is a better means of access than static usernames and passwords. Leavers' access should also be dealt with promptly.

DevOps leading the rapid development of applications in a consumer business may need privileged access for agility but this needs to be controlled and, ideally, put in a 'bubble'. User access technology can be used to provide audit trails.

Key questions for NEDs to ask are:

- Do we have a 'privileged access management' solution fully rolled out?
- Do our users have 'administrator' permissions on their workstations? What about software developers (if relevant)?
- How do we review IT administrators' access permissions? How often?

Early and effective detection of an incident can save your brand and your cash

Any breach needs to be found quickly so that action can be taken promptly. Often organisations focus their investment on preventing attacks but cyber security incidents will happen and there needs to be a blended 'protect and detect' strategy. Key questions for NEDs to ask are:

- What is our security monitoring strategy?
- What security incidents did we detect last month?
- How much of our IT is monitored for security incidents?
- Do we have response plans linked to the key scenarios we are monitoring? (as a minimum ransomware and data loss).

If attacks are inevitable, stopping them from spreading is essential

Many organisations have open networks to promote sharing but organisations with flat IT networks allow for propagation of breaches. There need to be breaks to be able to segment and protect certain parts, and critical systems may need to be isolated. This is an important point in reducing the risk of contagion. In addition, innovators can be given a safe 'bubble' to experiment in. Cloud transformation projects may give the opportunity to enhance segmentation, and therefore security, as different parts of the organisation have to go via the cloud to communicate with one another, rather than doing so directly.

In addition, some companies are starting to have difficult conversations around whether there are any parts of the business that are too risky to continue with. As a minimum, some degree of ringfencing may need to be introduced. Brands can be damaged by inaction and NEDs should ensure that appropriate consideration is being devoted to this issue. Key questions for NEDs in this area are:

- Do we have a 'flat' network?
- Do we know where our key data and processes operate? Have we mapped the flows of data which are necessary?
- Does our cloud migration include segmenting our network?

Third parties often have poorly controlled access to critical systems

Proper due diligence needs to be performed on third parties from a security perspective and this should be prioritised based on the riskiest which may be those holding sensitive data or responsible for a key business process. Key questions for NEDs in this area are:

- Do we have a third party cyber security review process?
- How many third parties were reviewed last year?
- Which are our highest risk suppliers from a cyber risk perspective?
- Are key third parties involved in our cyber incident response planning/exercising?

Conventional resilience approaches are ineffective in the face of integrated cyber attacks

There is an inevitability that a company will suffer an attack and business continuity strategies are not keeping up with this. There needs to be a mindset shift from physical flooding, etc. and a better understanding of what the business process is that needs to be made resilient. Often data that needs to be resilient is 'live/live' – going between two centres at the same time – and therefore any backup may also be corrupted. Online backups can therefore represent vulnerabilities and organisations on a journey to the cloud should be asking about incorporating segmentation.

NEDs can usefully ask what failure mode the company's disaster recovery is designed for. They can also enquire if the company's backups are offline and look to ensure third party suppliers are brought into simulations. Although there are a limited number of large cloud service providers which may concentrate risk, these companies will at least be doing all the basics plus much more. Key questions NEDs can ask in this area are:

- Are our disaster recovery and continuity plans predicated only on a physical event?
- When did the executive committee last exercise our response to a cyber crisis?
- How will our cloud migration bring benefits for our resilience?
- How are we testing the resilience of our supply chain to a cyber attack?

Closing thoughts

Ransomware is currently the greatest threat to organisations and key elements all companies should focus on to be able to protect from and respond to ransomware attacks are:

- governance and cyber security leadership – make sure the right leadership is in place with a proper understanding of cyber security risk
- an effective cyber security capability – with effective monitoring and response tested through simulated attacks
- preparedness to respond and recover – have a plan in place and practice it.

Open forum Q&A

There is a big onus on companies to protect themselves better but surely cyber crime will not reduce until more criminals are brought to justice – why is this not happening?

This is difficult as many of the criminals are based in Russia where the constitution forbids extradition and where some may actually have the support of the State. Some criminals have only been able to be brought to justice when on holiday overseas.

Is there an argument for not taking out insurance if ransomware attackers are making use of this?

Companies are not necessarily explicitly targeted because they have insurance but it is used as an encouragement to pay the ransom. Catastrophic cover is becoming more common.

Is segmentation of the business the best answer as a means of protection?

It is a case of understanding the critical assets, knowing where they are and being clear that these are segmented off and monitored, usually by running them on a different network with privileged users closely controlled and monitored.

How are ransoms paid and is the lack of control over this a weakness in the system?

The majority are paid in Bitcoin or another crypto currency. The US is moving to require cryptocurrency exchanges to have suspicious activity reporting for amounts over US$10,000 and other countries may follow.

What are the typical characteristics and size of companies being hit by ransomware attacks?

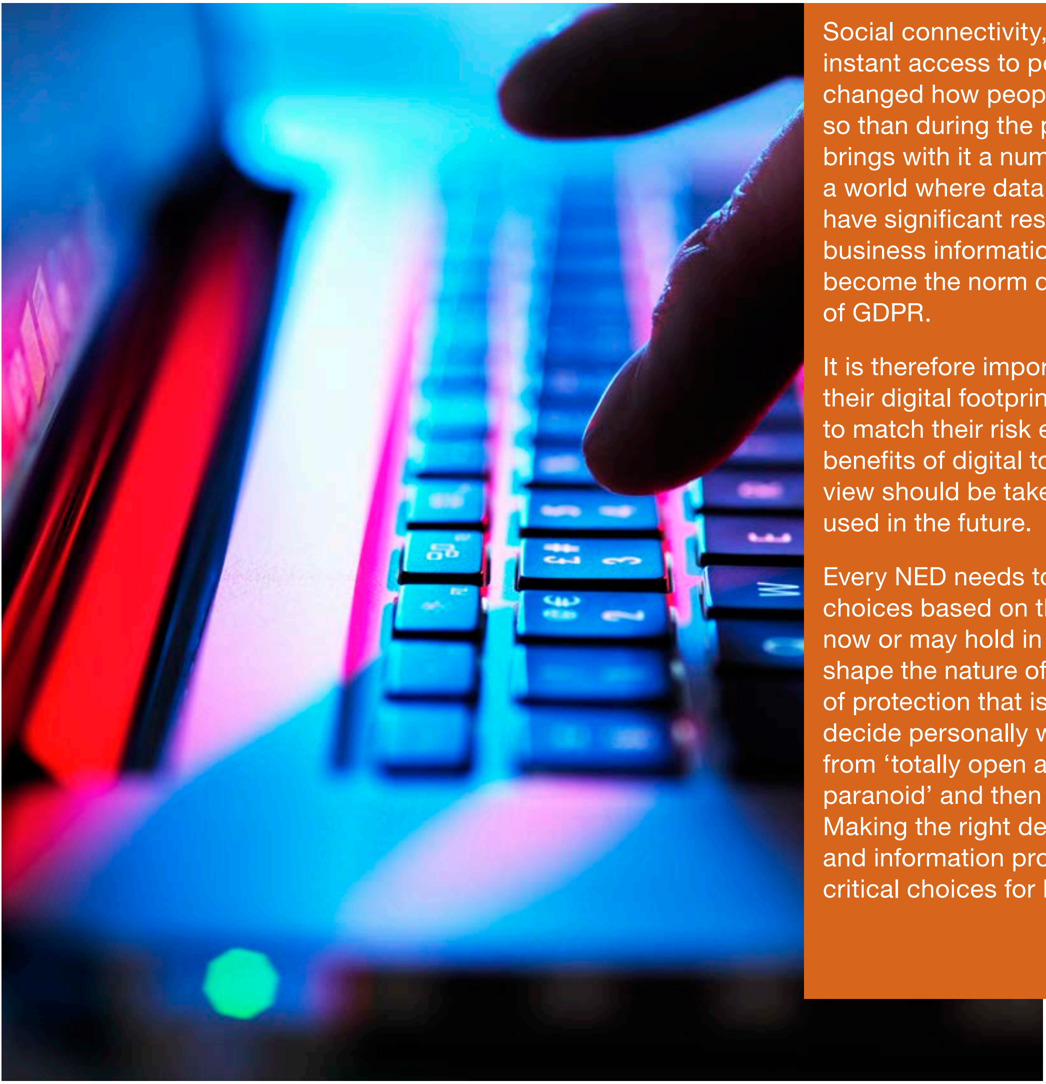
Ransomware attacks are relatively indiscriminate with a huge variety of sectors affected and companies of all sizes. A sweet spot for attacks is companies with large amounts of consumer data and no government involvement. Often, however, they have a minimum number of employees of 500 (as possible end points in the network) and revenues of £10 million or more.

£10 million

revenue + 500 employees can be minimum levels for an attack, although attacks are indiscriminate

Online hygiene for NEDs – resisting attacks and reducing leaks

(December 2021)



Social connectivity, the merging of home and work, instant access to powerful apps and tools have all changed how people live and work, and never more so than during the pandemic. Working from home brings with it a number of digital age risks for NEDs in a world where data is freely shared and yet NEDs have significant responsibilities for the protection of business information. Rich data harvesting has become the norm despite the implementation of GDPR.

It is therefore important that individuals are aware of their digital footprint and choose personal behaviours to match their risk exposure. While the immediate benefits of digital tools may seem alluring, a long-term view should be taken about how the data may be used in the future.

Every NED needs to make a well-informed set of choices based on the risks and the data they hold now or may hold in the future. This risk appetite will shape the nature of their digital footprint and the level of protection that is necessary. Individuals need to decide personally where they are on the spectrum from ‘totally open and trusting’ to ‘private and paranoid’ and then set their risk appetite accordingly. Making the right decisions about online behaviours and information protection is becoming one of the critical choices for NEDs.

Need to know

- NEDs and their technology are easy to find and can be an attractive target.
- NEDs of companies with heightened risk profiles should take extra care.
- Key actions for NEDs to take are:
  - think about personal risk appetite (and discuss with your CISO/Boards)
  - stop collecting company data and securely throw away what you have
  - check the basics vice the personal action plan at ncsc.gov.uk/cyber aware
  - fix password discipline and spring clean security questions
  - educate family or isolate work
  - take control of social profile and tighten settings.

Third party experts:

Stephen Page

Experienced Non-Executive Director with a focus on boardroom issues for the digital age

Paul Maddinson

Director National Resilience and Strategy, National Cyber Security Centre (in attendance)

Context

This short session was an opportunity to explore how individual NEDs can be better protected, both for their own digital safety and to keep their companies safe, by resisting hostile attacks and reducing privacy leaks.

Threats and risk appetite – a NED perspective

There are a number of threats facing NEDs via their personal IT including:

- improper access/data theft
- malicious interference/disruption
- ransom
- financial theft
- market manipulation (e.g. shorts)
- targeted intelligence gathering
- misinformation and influence.

These can all have unfortunate consequences for NEDs and their companies such as:

- downtime and recovery costs
- brand damage
- direct financial losses
- strategic damage
- GDPR breach
- ethical complexity (e.g. ransoms)
- personal financial loss
- embarrassment
- legal exposure.

NEDs who think that they are not easy to find, or who think that nobody will look for them, should think again. NEDs are very easy to find and so is their technology, either directly or via a family member. And NEDs are an attractive target as they can be the route in to a rich seam of data, if uncovered.

Addresses (and sometimes passwords) are harvested from cyber attacks on companies, from passing email traffic and from friends. Information loss is now at a highly industrialised scale with vast volumes of data stolen or left unprotected. Many email addresses and passwords have been sold and resold for decades for extortion, blackmail or nuisance purposes.

Resisting hostile attacks

There are four core areas for NEDs to reflect on in terms of resisting attacks:

- choose your risk appetite wisely
- don't have the data at all
- get the basics right
- don't let the attackers in.

Setting risk appetite is in the DNA of NEDs and they need to apply this practice to themselves. On a spectrum from a student who freely shares data to a 'spook' who conceals everything, NEDs should probably aim to be a reasonable way along towards the spook end – and even further if their Boards are responsible for critical national infrastructure where they may face highly capable targeting.

NEDs should ask themselves:

- Where do you want to set your personal risk appetite?
- Where does each of your companies want to set your risk appetite? (Have you asked their CISOs?)
- What if these risk appetites are different?
- Can your household adopt the same risk appetite and, if not, how can you isolate your work technology?

The simplest risk mitigation is not to have the data in the first place. NEDs should ask themselves, 'Why keep any company data on personal technology?'

Recommendations include:

- Do not have access to companies' operational systems.
- Periodically spring clean data held and throw it away.
- Use secure Board paper systems (e.g. Diligent)
- Do not collect handouts/printouts – ask for them to be put on the Board paper system.
- Let your company CISO set the controls and do not circumvent them (e.g. no printing).
- Be a role model and blow the whistle if someone breaks the rules, (e.g. an executive emails sensitive data to your home email address).

A number of tips were shared in terms of getting the basics right such as:

- Set up separate accounts on your home computer to isolate your work from your family/personal life.
- Set up antivirus protection on laptops/desktops and keep it up to date. Set it to scan your files nightly and to protect you in real time.
- Install apps only from official sources, e.g. App Store.
- Ensure your close friends and family are cyber aware and are safe online.
- Never respond if you receive a call offering technical support (if it claims to be from your company, hang up and verify independently).

- Always update operating systems and apps immediately. Criminals will focus particularly on what has changed and target those who have not updated straight away.
- Do not open emails from unrecognised email addresses.
- Sender addresses, on emails and texts, can be easily forged. If in doubt, verify through another route.
- 'Think before you link' – do not click on anything without checking where it takes you. Even better, type in a known address directly.
- Do not open attachments within any email you suspect or otherwise mistrust.
- Report suspected phishing emails to your company for work email, or to report@phishing.gov.uk for personal email.
- Ensure activities are not being observed. For laptops, either use a privacy screen or just do not do work on trains.
- Do not leave your device unattended. Lock mobile devices each time you put them down.
- Encrypt your internet traffic using a VPN provided by your company when using public shared WiFi.
- Have at least one complete offline backup of everything that matters (including, if possible, email).
- Have a means of contacting others if you lose accesses.
- Know how to erase your devices remotely if they are lost.
- Set up multiple personal email addresses in case one is compromised.

NEDs were directed to the personal Action Plan via the 'Start Now' button on:

https://www.ncsc.gov.uk/cyberaware

When a phishing attack is spotted, individuals should take action to share this to keep others safe. Over 50,000 unique scams have been taken down following reports from the public.

Suspicious emails:

- Forward to **report@phishing.gov.uk**
- Tell company CISO if work-related email.
- Do not click on any links or view any images in the email.

Suspicious websites:

- Report to **https://www.ncsc.gov.uk/guidance/suspicious-email-actions**
- Tell company CISO if work-related email.
- Do not visit the website, even for curiosity.

If a victim of a phishing attack:

- Consider isolating and disconnecting equipment until advised otherwise.
- Tell the company CISO and ask for specialist assistance.
- Perform a full antivirus scan and change passwords (from a different machine).
- If you have lost money, report it to **actionfraud.police.uk**

There was a specific discussion around passwords which are generally attacked using dictionaries of stolen passwords, algorithms that generate likely combinations, and prior knowledge of an individual. As a result, NEDs should:

- Use a separate password for each account or service: if one is stolen, the rest are safe.
- Create strong passwords:
  - Generate long, complex passwords with a password manager (1Password, LastPass, etc.) or browser
  - If you have to do it manually, choose three or more unrelated words or a phrase (e.g. polymath-tomato-75-daftly)
  - See **https://www.ncsc.gov.uk/collection/top-tips-for-staying-secure-online/password-managers** for more help.
- Always set 2-factor authentication (2FA) wherever supported, and especially on your email
- Be extremely careful with 'the keys to the key cupboard', i.e. the access controls on your password manager, Apple Keychain, etc.

There are ways in, which do not use a password and NEDs should think through these carefully, e.g.:

- Password reset often goes via email and therefore email should be covered by extra strong passwords and 2FA.
- Supplier helpdesks – especially phone and email. Did you use your mother's maiden name as your secret word when you set up your account in 1990?

- So-called security questions are not secure if others can find the answer. You can lie: e.g. 'my best friend is The Eiffel Tower', 'my first school was Temperate Potato'. Put your answers in your password manager and a safe place.
- Do a spring clean. Call every provider and reset your security questions to something better.

Finally, the risk of connected devices was discussed and NEDs were advised to:

- remove any default passwords
- check security updates are automatic
- consider devices connected to hostile countries
- block access to files on your network.

As Board members, NEDs should also be alert to social engineering and misinformation campaigns.

Reducing privacy leaks

This is about choices and protective measures. We all shed data constantly in online interactions and there are entire business models based on selling our data. The mitigation strategy is to make wise choices and evaluate the utility every time there are options with an eye to the future and not just today.

NEDs can take some control and give away less by taking the following steps:

- Network carefully – be deliberate about your online persona, set every privacy option and think through what your friends are posting about you too.
- Opt out – balance reasonable utility with the cost to you (choose 'necessary' cookies only, choose 'no marketing', switch off ad tracking).
- Use a false persona or a few of them – you don't always have to be 'you'. Don't give unnecessary facts (and don't post openly on social either).
- Don't sell out your friends – do not share address books with apps or post others' personal data.
- Log out of sites and don't 'log in with Facebook' – so it's (a bit) harder to be tracked.
- Be super-careful when you are offered a novel idea (e.g. selling your DNA).

There are now new tech capabilities to help with privacy, particularly within Apple IOS, and NEDs were provided with examples to explore.

The extra cautious

Some companies have heightened risk profiles where NEDs should take extra care and possibly seek specialist advice. This is a broader list of companies than just those involved with critical national infrastructure and could include those where there are operations in hostile countries, very high value transactions, sensitive intellectual property, shareholder dissatisfaction or a temporary perceived weakness, amongst others.

NEDs on these companies should:

- Really, really get the basics right – separate passwords, 2FA everywhere.
- Remove all company data from home equipment and do not collect any more.
- Have offline backup (e.g. Amazon Glacier, Backblaze B2) protected with separate passwords.
- Get their own domain name(s): use separate addresses for different roles/contacts so you can spot phishing. -> start with **theukdomain.uk** to find a domain name registrar.
- If possible, put any work content 'inside' the company network (company VPN, cloud email system).
- Consider isolating work technology from home equipment (ask an expert) and use a good firewall.
- Consider using a device provided by the company (so they set controls and take the risk).
- Shrink your social presence.
- Be alert for online or real-world connections from strangers, even if they seem well-connected.
- Validate anyone you are talking to (e.g. anyone who joins a conference call).

Conclusion

The workshop concluded with the following suggested initial actions:

- Think about risk appetite (and discuss with your CISO/ Boards).
- Stop collecting data and securely throw away what you have.
- Check the basics – personal action plan at **ncsc.gov.uk/cyberaware**
- Fix password discipline and spring clean security questions.
- Educate family or isolate work.
- Take control of social profile and tighten settings.

The session was about protecting NEDs as individuals but NEDs were reminded that the NCSC provides a Board toolkit for protecting companies that NEDs should also take a look at.

Open forum Q&A

How is Critical National Infrastructure defined?

In the UK, there are 13 Critical National Infrastructure sectors: Chemicals, Civil Nuclear, Communications, Defence, Emergency Services, Energy, Finance, Food, Government, Health, Space, Transport and Water. The UK's Critical Infrastructure is defined by the UK government as: 'Those critical elements of infrastructure, (facilities, systems, sites, property, information, people, networks and processes), the loss or compromise of which would result in major detrimental impact on the availability, delivery or integrity of essential services, leading to severe economic or social consequences or to loss of life.'

Is Diligent's board app considered secure for the storage of board materials?

NCSC have not done a full product assurance of the Diligent board app but the fact it is designed to help manage data appropriately, including focusing on security, suggests it is better than nothing.

If something is downloaded from Diligent, does it get stored on the iPad/device used to download it?

Things stored on an iPad can be protected in many ways and there is an encrypted area but the weak link may be when the device is backed-up. In general, Diligent is designed to do the right things. It is worth bearing in mind that more apps have not been vetted on Android than on Apple.

How secure is WhatsApp?

WhatsApp is not private and data is being collected. iMessage, for example, may be better as Apple has signalled a corporate philosophy with appropriate values and purpose. The NCSC does use commodity products and how it is architected is described on the website which may be of help in informing decisions.

Note: following the session, new guidance on messaging has been published by the NCSC, including decision criteria for adoption of messaging systems, and security principles. NEDs are encouraged to refer to this link:

https://www.ncsc.gov.uk/blog-post/using-secure-messaging-voice-and-collaboration-apps

In particular, the above guidance emphasises that the business model for many free apps is based specifically on access to your data that you have allowed under the User Agreement. Use of public apps from companies like Meta (Facebook, WhatsApp etc.) may pose significant questions for Boards and Audit Committees.

What is the risk of a password manager being hacked – and then all passwords being exposed?

This is always a risk with any service but they are designed to be as secure as possible, including layered security and password encryption to reduce the risk of mass breaches, particularly if you use one from a large, reputable company. NCSC recommends use of password managers as part of an appropriate risk management strategy. You can try to create and remember unique complex passwords for multiple accounts but it quickly becomes impractical. The risk is that people then use easily guessed passwords or re-use passwords for different accounts which is a much bigger risk than password managers.

What would you recommend a new NED should do?

Sit down with the company CISO and also make use of guidance on the NCSC website, particularly Cyber Aware.

Transitioning from legacy IT to the cloud

(December 2021)

Most organisations are implementing some form of cloud technology – from simple file-sharing through major shifts in infrastructure provision to a complete transformation of business processes and customer offerings.

The digital age has challenged the board agenda, composition and skills. Increasingly cloud is becoming a boardroom and Audit/Risk committee topic. The challenge for Boards is to create strategic 'stretch' for the company by breaking free of legacy constraints, while managing new and complex risks at the enterprise level.

COVID-19 has made this issue even more pressing for Boards. Digital adoption accelerated dramatically, in particular the cloud, for organisations wanting to overcome the 'technical debt' in their legacy core IT capabilities. However, tactical responses to the pandemic do not necessarily translate to well-thought through strategic programmes and there are gaps for Boards to close.

The session was an opportunity to demystify cloud, reflect on the benefits and risks, and consider how to execute cloud strategy while dealing with legacy IT. The aim was to help NEDs to be able to bring the right questions into the boardroom.

At a glance

- Put simply cloud is about using someone else's computing resources which can be infrastructure as a service, platform as a service or software as a service.
- In addition cloud can be public, private or hybrid.
- Cloud brings benefits in terms of cost optimisation, increased effiiciency and greater flexibility but there are risks such as data security and regulatory, technology, operational, vendor and financial risks.
- For a successful cloud enabled transformation:
  - be clear on your cloud strategy and benefits
  - ensure your cloud readiness approach is comprehensive
  - build a cloud operating model and revised governance approach
  - secure cloud by design
  - manage the coexistence risk.

Presenters:

Stephen Page
Independent portfolio NED with a focus on digital-age boardroom issues

Mark Moffatt
CTO for PwC Consulting and Head of Alliances

John Lyons
PwC Technology Partner with a focus on FS

Why and what – a NED perspective

Put simply, cloud is about using someone else's computing resources without full visibility of how they are configured and operated. Traditionally, data would have sat in a company's own data centre but now the data sits with a provider on their devices meaning that control over configuration has been lost but, in theory, flexibility, resilience and service quality have been gained.

It is sometimes stated that the higher specialism of a cloud provider will bring better security. However, while this may be true, configuration errors by their client can result in significant security breaches if not managed thoughtfully and tightly.

A wide range of resources can be purchased as cloud services. These include infrastructure – such as data storage, processing capacity, network bandwidth, computing platforms – and applications such as tools and applications, application suites and business systems. Thus a company can access specialised capabilities, or almost limitless capacity, configured quickly and be charged only for what is used. Even human capacity can be sourced on a similar basis, although this may be more commonly referred to as crowdsourcing.

Technical terminology often used includes:

- Infrastructure as a Service (IaaS) – provision of processing, storage, networks and other fundamental IT resources
- Platform as a Service (PaaS) – to develop, test, run and manage applications without maintaining technology infrastructure
- Software as a Service (SaaS) – using software licensed on a subscription basis and hosted by a third party.

In addition, cloud can be:

- Public – anyone can subscribe to the same services
- Private – a single tenancy with one customer only, can also be on premise using cloud technology
- Hybrid – a combination of public and private cloud, e.g. driven by privacy or criticality.

Most cloud technology matters are executive in nature but crucial aspects are best led by the Board. We discussed three areas where NEDs have a key contribution:

- 'Operations' (CTO driven, primarily executive) – NED role is to be aware and look out for risks, faulty assumptions and incomplete controls
- 'Imagination' (CEO driven) – NED role is to challenge and invite bold new ideas which might previously have been unachievable
- 'Transformation' (CEO and Board driven) – NED role is the stewardship of the future of the company, encouraging pace and breakthrough thinking.

Transitioning to the cloud – success strategies and key risks

Cloud offers modern businesses many advantages, including allowing multiple users to collaborate on the same data or documents in real time, regardless of their physical location. Cloud-enabled software applications make working as a synchronised team easier and more accessible than ever.

Much of the innovation comes from small fin techs which face fewer challenges compared to large companies that may be having to reinvent themselves from within. As an example, it is now possible to construct the key operational components of a bank in under a year at a cost of less than £10m.

There are numerous benefits to cloud, particularly as many organisations have old, fragile and fragmented technology:

Cost optimisation/transparency

- pay for use enables variable costs in line with business volumes
- improved transparency of costs and chargeback to the business users

Increased efficiency

- increased collaboration with real time edit visibility
- no software currency issues
- faster time to market
- rapid access to latest technology
- agile processes and DevOps reduce testing and deployment timelines

Greater flexibility

- ability to scale up and down quickly
- greater agility in managing changes to technology
- improved resilience
- shared security model utilises cloud provider's security controls
- regular security and technology upgrade
- optimised business model
- lower upfront investment
- capex costs are moved to opex.

NEDs should beware of over-optimistic business models that promise to move everything to the cloud and save significant costs. The real benefits come from needing fewer individuals to manage the existing IT infrastructure and from the speed of change, application development and testing, i.e. having a faster and more agile organisation. Any cost saving is likely to be less than 10%.

There are various cloud pricing models available and, at a basic level, cloud platforms offer dynamic and/or metered pricing so that organisations pay for the resources used. The most common are:

- Standard – pay-as-you-go, no commitment guaranteed availability
- Committed/reserved – fixed fee payment over 12-36 months, guaranteed commitment
- Unsecured/spot – pay per use, no commitment, no guarantee.

These all have different risks and benefits, as well as typical use cases, so NEDs should ensure any business case has considered the right contractual commitment.

Three cloud providers currently dominate:

- Amazon (AWS) – the first player to market and the dominant market leader with flexibility and a wider range of services through its innovative and collaborative approach
- Microsoft (Azure) – more corporate but gives access to the full Microsoft ecosystem, can be built in house and is very resilient
- Google (GCP) – the newest entrant but growing strongly and with an innovative and open source approach.

Others exist through the lens of particular applications such as Salesforce, Workday, Oracle, SAP. More are likely to come into the market over time.

The commercial model for a company needs to simultaneously evolve at each stage of the cloud journey. As costs shift from on premise to cloud, the total cost of ownership evolves to comprise direct costs incurred directly from the vendor and internal costs for any resources managed on premise, including shared services costs for supporting infrastructure, maintenance, operations and licensing. With a traditional on premise model, costs will be mostly capex but once a high level of maturity is reached with more than 70% in the cloud, the costs will be mainly opex.

The nature of risk also moves across this journey and there is an inflection point when a company moves from being an early adopter to being an intermediate user. Some companies take a 'greenfield' approach, going entirely cloud native under a different brand to fully explore the art of the possible. In this way, cloud can make markets easier to access than trying to tweak an existing model and moving bits at a time.

NEDs should focus their time on the business case and the key risks and challenges which are:

- **Data security and regulatory –** data security and regulatory risk can be associated with loss, leakage or unavailability of data. This can cause business interruption, loss of revenue, loss of reputation or regulatory noncompliance. Cloud relies heavily on encryption as opposed to the more traditional 'protecting the perimeter' for on premise technology. Who has the encryption key is therefore fundamental.
- **Technology –** technology risk can be associated with constantly evolving technologies and lack of standardisation in how they integrate or interoperate. Technology risks could lead to costly re-architecture and remediation. Cloud applications cannot be tweaked to what an organisation wants and there is no control over when upgrades come. Companies have to keep to the standards of the providers.
- **Operational –** operational risk relates to the execution of IT services and tasks that the business relies upon. Having the right controls, audit and assurance is critical. Cloud providers can go down and so business continuity should also be considered.
- **Vendor (third party risks) –** vendor risk comes from leverage or association with vendors. Unforeseen vendor circumstances such as bankruptcy, lawsuits, an SEC probe, or any other act of defamation for the vendor could be damaging. There is also a concentration risk here which leads to balance of power considerations. Some companies are following a multi-cloud provider strategy to help mitigate this.
- **Financial –** financial risk can result from overspending on services, poorly run migration or coexistence, or loss of revenue. Elements not being used should be turned off when not needed otherwise it is akin to paying for a running tap. This needs finance and operations to work together.

Most organisations establish a cloud centre of excellence to manage the process. This is about a new way of working with new skills that needs to be incubated and embedded, and with different architectures put in place. It needs the right architects and the right way of thinking. A small group of people can set the standards and then incubate and upskill the whole organisation. The life cycle of a cloud centre of excellence generally involves:

- forming the team
- achieving some early success
- growing key skills and capabilities
- building reusable patterns and reference architectures
- engaging and educating
- scaling and reorganising.

With any cloud enabled transformation, a major consideration is the complexity of managing so many changes in parallel – not least an upskilling and mindset change across the organisation. Executing a cloud strategy is not just a technology engineering programme, it is a business transformation. Key considerations in embarking on and executing a cloud transformation therefore include:

- **Cloud strategy –** some organisations have embarked on a cloud journey without an overall vision and supporting strategy. The nature of the journey means parts will be a discovery and unplotted, especially in the early phases, but a clear vision and supporting strategy provide guiding principles and prioritisation, reducing overall execution risk.
- **Cloud readiness –** in order to develop your journey and roadmap, it is important to understand the maturity of the major technology groupings and the complexity, cost and risk of transformation and migration. Cloud readiness assessments require a significant amount of capability and effort but are a key foundation to understanding and minimising risks during the transformation.
- **Coexistence strategy –** during the cloud journey, organisations will be managing critical business services that are supported by technologies on-premise and in private and public clouds (IaaS, PaaS or SaaS). Architecting and operating these critical services during the migration and transition states requires the effective management of coexistence. Many organisations consider coexistence too late.
- **Governance and operating model –** like any large organisational transformation that impacts all areas of the business, strong governance is required to manage the cloud journey and the considerable investment sums required. Governance over cloud architectural designs, cloud platform operations and cloud business operations are all key.
- **Benefits –** the cloud migration journey can be such a heavy lift that organisations do not focus enough on the benefits. Maturing the benefits realisation is likely to take a number of years post migration. It is important to provide enough focus on the business change activities that will maximise the benefits of new cloud capabilities to avoid the risk of new entrants taking over.

Key takeaways are therefore:

- be clear on your cloud strategy and benefits
- ensure your cloud readiness approach is comprehensive
- build a cloud operating model and revised governance approach
- secure cloud by design
- manage the coexistence risk.

There is an opportunity to reflect on what are the crown jewels of a company that really need to be protected and what are the areas where giving up control is less of an issue.

Board engagement – conversations NEDs can lead

Returning to the themes of 'operations', 'imagination' and 'transformation' from earlier, helpful engagement from NEDs includes:

Operations (with the CTO/CEO)

- Review the extent to which individual steps (virtualising servers, procuring capacity) are driven from a well thought through strategy/roadmap.
- Probe whether the right talent is in place (in IT but also in procurement, business operations, internal audit, etc.) to operate a cloud model.
- Review risks and controls, especially cyber risk and data protection

Imagination (with the CEO)

- Have conversations around strategic value from data.
- Hold creative sessions, e.g. with the innovation team.
- Lead discussions about the limitations of today's business—what have we not been able to achieve?

Transformation (in the boardroom)

- Carry out a strategic review of business units or the whole enterprise: what does a future look like if we have unlimited computing power, can digest all available data, can put any information in the hands of anyone anywhere?
- Review the pace of change: is our broad strategy to evolve the current enterprise, to reengineer boldly (e.g. legacy migration), or to create new units from available components (e.g. SaaS)?

Audit/risk Chairs may face new issues and risks in four key areas as set out below:

Cyber security

- Start with NCSC guidance: https://www.ncsc.gov.uk/collection/cloud-security
  - data in transit, asset protection, separation between users, governance framework, operational security, personnel security, secure development, supply chain security, secure user management, identity and authorisation, external interface protection, secure service administration, audit information for users, secure use of the service
  - independently assess both design and implementation especially all 'human' processes
- Beware of 'our cloud provider will do the security'.

Procurement and commercial

- Performance metrics, penalties/liability
- Charging basis including potential 'surprises'
- Assessment framework, e.g. international standards
- Strategic alignment with provider
- Ability to inspect provider (e.g. for cyber protections)
- Exit plan, future flexibility to change provider
- See for example FCA guidance FG16/5.

Legal and regulatory

- Information protection regulations, culture, behaviours
- Implications for physical location of data—cloud providers favour unrestricted cross-border data flows while national regulatory frameworks may take the opposite view
- Risk chain, e.g. in the event of a failure will regulatory enforcement on the company link to back-to-back commercial pressure on providers? Will regulatory requirements be matched by service agreements with the provider?
- Tax considerations e.g. transfer pricing, characterisation of income, indirect tax on digital transactions.

Resilience

- While cloud may help resilience dramatically, also consider concentration risk (within industry, or in the supply chain)
- Consider how unavailability/inaccessibility of the cloud provider will be handled, e.g. DDOS attack – including what customers will see
- Backups: understand provider's offering, assess whether to provide an independent, disconnected fallback.

A large-scale migration from legacy to cloud brings particular pressures for Boards. NEDs may be pulled by regulators or stakeholders into a surprising level of technical detail around areas including:

- the approval framework and transition governance model
- data cleansing
- the phasing strategy
- timing
- controls to ensure migration integrity
- talent readiness
- security readiness
- supplier readiness
- capacity
- crisis readiness

and so NEDs need to be conversant in all these areas prior to a large migration.

Open forum Q&A

How practical is it to switch between different cloud providers and do many companies do this?

It can be possible if you have a strong handle on where data resides. However, companies are less likely to move completely and more likely to have several providers and ramp them up and down as necessary.

Do rights of audit generally exist and, if so, are they successful?

This is indeed a significant challenge. The major cloud providers work to a common set of standards and will attest to these via a third party report but will not generally give individual companies access for audit purposes. A consultation within FS is currently looking at this area.

A NED recently discovered that Salesforce does not back-up personal data so the individual still needs to do this. Is this a common misunderstanding?

Yes and back-up is an area that should always be checked to fully understand the situation.

Any tips for attracting top talent in this space if the organisation is an older more traditional brand?

Attracting talent is difficult for all as it is thinly spread. However, the right vision will help, as this is not just about monetary reward but also about the environment and the opportunities for innovation. For older brands seeking new-generation talent, tone is important. Interviewers should represent a sharp, exciting future.

As well as the concentration risk with a limited number of suppliers, is there not also a risk of 'group think', i.e. that there is only one way to do this?

That is a risk and may become even more so once quantum computing is involved. As with anything, NEDs need to reflect on ways of mitigating the risk.

3

cloud providers currently dominate

Corporate distress, including in the supply chain

(December 2021)

When the pandemic first struck, many organisations – particularly those whose business models were significantly impacted – were forced to focus on liquidity. Since then, a considerable amount of 'soft debt' has built up as various schemes were put in place to support business. However, a number of these support mechanisms, such as furlough, have come to an end or are being unwound. This could lead to some companies finding themselves in distressed situations or dealing with counterparties who are struggling.

In times of stress, NEDs are often in the spotlight and Boards need to be alert to warning signs and focus on steps they and their executive teams can take to prevent collapse. The Corporate Insolvency and Governance Act 2020 (CIGA 2020) introduced significant new measures to help reinforce a rescue culture during this period of economic uncertainty which means that new options are available. These include a moratorium for companies in distress to give them breathing space and a new restructuring plan with a simplified voting structure compared to schemes of arrangement. The session was an opportunity to explore this area in more detail.

Presenter:

Hamish Mackenzie
PwC Restructuring Partner

At a glance

- NEDs should remain alert to early warning signs that a company may be in distress.
- In a zone of meaningful financial distress, directors' duties shift towards creditors.
- Directors can be held liable for misfeasance, fraudulent trading or wrongful trading.
- Boards now have an expanded toolkit for restructuring including:
  - M&A
  - operational turnaround
  - equity raise
  - debt raise
  - liability management
  - scheme of arrangement
  - Company Voluntary Arrangement (CVA)
  - restructuring plan under the Corporate Insolvency and Governance Act (CIGA) 2020
  - pre-pack administration
  - trading administration.
- A restructuring plan under CIGA 2020 merges attributes of a CVA with a scheme of arrangement, introducing the concept of a 'cross-class cramdown' where the class of creditors most impacted can 'cram down' on all other creditors and impose the scheme terms on them. This is a powerful new tool.

Context

At a high level overview, three elements have been driving the current situation:

- unprecedented government support
- low interest rates
- 'dry powder' – around £2.6trillion of funds (more than double the amount that existed at the start of the financial crisis).

The above are all fuelling the hunt for yield which has led to a strong recovery in capital markets with the FTSE All Share up 8.5% in 2021. There has been an explosion in M&A activity. Nevertheless, there are a number of threats on the horizon, such as government support withdrawal, working capital and the supply chain, commodity prices, over-leverage and inflation, that could result in continued M&A and refinancing, restructuring in specific sectors or a material increase in restructuring and insolvencies.

The dry powder does mean that there are now more restructuring alternatives than insolvency and therefore there are a number of options that NEDs should reflect on.

Several key themes set the backdrop to companies in the current environment:

- repayment of government debt
- pent-up demand
- working capital
- input prices
- supply chain
- inflation
- interest rates
- creditor action
- changing creditor base
- increasing litigation
- material non public information
- new variants.

The UK timeline for the withdrawal of various forms of support was highlighted but it was emphasised that this changes constantly and will also vary from country to country for multinational groups.

The default rate has been very low over the past five years due to the 'dry powder' mentioned earlier. However, there are certain sectors that have been impacted more than others by COVID-19:

Heavily impacted – consumer retail and leisure, travel, aerospace, energy, utilities and resources, event businesses

Expected to be impacted – sub-prime, non-bank lenders, real assets, business services, automotive

Stable – engineering and construction, healthcare, banks, asset management, wealth, technology, media and telecoms.

Warning signs

There are a number of warning signs NEDs should be alert to, although it is worth bearing in mind that early warning signs no longer provide the trigger for restructuring talks, which are more complex and need agreeing in a shorter timeframe:

- NEDs do not have the luxury of covenant breaches today
- revolving credit facilities springing covenants
- debt maturities
- audited accounts (delay, corporate governance issue)
- change in management board
- debt trading
- credit rating downgrade
- competitor distress/supplier distress
- regulatory changes
- related commodity price movements
- online disruption post pandemic
- restriction on operating/bilateral facilities.

In order to commence the restructuring negotiations in a constructive spirit, it may be in lenders' interests to agree to a set of core restructuring principles.

Restructuring toolkit for directors

The restructuring toolkit has expanded for directors and the range of likely implementation tools Boards should consider include:

- M&A – exploring disposal of part of the business to save the remainder
- operational turnaround – to drive improved profit margins
- equity raise – approach shareholders for further funding before others
- debt raise – from existing or new debt providers
- liability management – relates to more high yield debt providers ('amend and extend')
- scheme of arrangement – not an insolvency
- Company Voluntary Arrangement (CVA) – particularly common in retail
- restructuring plan under CIGA 2020 (see below) – new in pandemic
- pre-pack administration – quick
- trading administration – more valuable due to continuing to trade.

The first five are all areas that might be looked at before moving on to the final five.

A scheme of arrangement is not an insolvency and therefore can have less stigma attached. It can be used to reduce the consent threshold. It can also be used to deal with one area of the balance sheet where there is an issue, such as multiple small claims. A scheme of arrangement can also be something to consider if a major customer is in difficulty, as you are then a significant creditor.

A Company Voluntary Arrangement (CVA) is often used within retail, e.g. to reduce lease liabilities. However, there is a 75% threshold of agreement needed.

A restructuring plan under the Corporate Insolvency and Governance Act (CIGA) introduced in March 2020 merges attributes of a CVA with a scheme of arrangement. This was new in the pandemic and there have been 11 cases to date. It introduces the concept of a 'cross-class cramdown' where the class of creditor most impacted, if they vote in the majority, can 'cram down' on all other creditors and impose the scheme terms on them. It is therefore a powerful tool.

A pre-pack administration is usually very quick and a trading administration is when a company files for administration but is more valuable as it continues to trade in the meantime.

The EU Insolvency Directive has led to other countries in Europe adopting similar new approaches to the UK which may give other options if an organisation spans different jurisdictions.

Directors' duties

There is undoubtedly a more litigious environment now but directors' duties have not changed. There have also been no material judgements to date against directors, although the Carillion process is underway. There was a degree of government protection during the temporary suspension of the financial penalties and risks for wrongful trading earlier in the pandemic but this has now ended.

Directors need to be mindful that in a zone of meaningful financial distress, directors' duties shift towards creditors and become aimed at minimising losses to creditors. Directors can be held liable for misfeasance, fraudulent trading or wrongful trading.

Open forum Q&A

Is the increased use of supply chain finance another indicator of potential problems developing?

Yes, it can be although some countries use this in the ordinary course of business more than others. Trade credit insurance can be another pointer.

Would a company in difficulty generally look to raise equity or debt?

A company in distress tends to go to its shareholders first but it would then look to explore debt before other restructuring.

For the 10 implementation tools that are part of a director's restructuring toolkit as listed above, would the final 5 run in the order of preference given?

Not necessarily as some can be used in combination, e.g. a prepack administration with a scheme of arrangement.

Do the options taken differ if a director is representing a lender as opposed to the company in difficulty?

A scheme of arrangement, CVA and restructuring plan are generally company led whereas a pre-pack administration or trading administration can be creditor led.

Is a restructuring plan under CIGA 2020 still court supervised?

Yes.

Are there significant changes in other jurisdictions NEDs should be aware of?

Recently, the US has called more into question the switch to creditors' interests over those of the company in distress. Jurisdictions will however need looking at on an individual basis, as relevant.

What would your number one tip in this area be for NEDs?

Ask for a review of the top 10 contracts that could potentially cause an issue to be shared with the Board (for example, where a change of rating may trigger a liability). Often the Board does not have visibility of items such as this.

75%

threshold of agreement needed for CVA

Practical steps to address ethnic inclusion and diversity, including ethnic pay gap reporting

(January 2022)

The Black Lives Matter events served as a sobering reminder of the racial inequalities that still exist across society. The recent Colour of Power index shows a stark lack of black and ethnic minority representation in positions of power in government (national and local), the judicial system, the police, sport, journalism, etc. The corporate world does not fare any better, with only two CEOs of FTSE 100 companies from a minority ethnic background. The last Parker Review further indicated an ongoing lack of ethnic diversity in UK boards.

At PwC we have had an action plan focused on creating a more inclusive workplace for a number of years. The firm has voluntarily published its ethnicity pay gap for four years and has recently gone further to break this down to show separately the Black, Asian, Chinese and Mixed Ethnic background pay gaps. Understanding the data is an important element of taking steps to enable change.

This paned-led discussion was an opportunity to encourage progress on this crucial agenda.

Need to know

- 59% of FTSE 350 companies did not meet the target of having one non-white individual on their Board in 2020.
- Pipeline is important for moving the dial.
- It is not just about bringing in ethnically diverse individuals but also about retaining them.
- Ethnicity pay gap reporting needs to be granular to avoid one population masking another.

Presenters:

Sir Trevor Phillips

Co-founder of the data analytics consultancy Webber Phillips, Chair of Green Park Interim and Executive Search and an acclaimed writer and TV producer, as well as an experienced NED and founding Chair of the Equality and Human Rights Commission

Dr Randall Peterson

Professor of Organisational Behaviour and Academic Director of the Leadership Institute, London Business School and principal author of a report recently published by the FRC on 'Board Diversity and Effectiveness in FTSE 350 companies'

Sarah Churchman

PwC's Chief Inclusion, Community and Wellbeing Officer

Jason Buwanabala

PwC Senior Manager, People and Organisation Consulting.

Context – Dr Randall Peterson

A review recently conducted found that, in 2020, 59% of FTSE 350 companies did not meet the target of having one non-white individual on their Board. However, it has been proven that change is possible when considering gender diversity, as the number of women on Boards has moved from less than 10% to more than a third over recent years, once aspirational targets were set.

The report entitled 'Board diversity and effectiveness in FTSE 350 companies' recently prepared for the FRC following research by Dr Randall Peterson looked to draw conclusions from Boards that are successfully addressing diversity. Data was drawn from all FTSE 350 companies as well as in depth interviews with Chairs plus two other Board members for a representative sample of 25 companies. A Board effectiveness profile was generated using the Q-Sort methodology, analysing which aspects are really important to Boards (for example, the Board focuses on the bottom line versus the Board focuses on many different aspects).

The research found the effects of diversity to be:

- Boardroom culture becomes more relationship focused and collaborative;
- making those Boards less likely to experience shareholder dissent;
- resulting in better future financial performance, especially after three years; and
- contributing to higher stock returns especially when diversity is well-managed.

In order to encourage diversity, specific actions came out as important for different groups as follows:

Chairs

- Be considered a good listener
- Actively monitor the pipeline of potential directors
- Ensure you have an inclusive culture
- Look at challenges from many perspectives
- Have strong diversity targets and clear policy
- Pay attention to social mobility.

Directors

- Be adaptable and resilient
- Focus on creating an inclusive culture
- Strategic thinking
- Prioritise stakeholder management
- Have strong interpersonal management
- Embrace diversity.

Nomination Committees

- Choose a diverse search firm, provide a clear mandate
- Manage the pipeline of diverse talent
- Set clear diversity targets and report regularly
- Use a skills assessment to recruit directors
- Invest time and energy into making diverse appointments
- Ensure that the nominations committee itself is diverse.

Board evaluators, Educators and Regulators

- Highlight the need for continuous board development
- Focus Boards on an inclusive 'diversity friendly' culture
- Support 'board ready' and other interested candidates
- Be specific because diversity can mean many things.

When diversity also includes inclusion, it can lead to really positive results.

Interestingly, when directors were asked to define diversity, they spoke first in terms of personal/neuro/ personality diversity, then gender and then race, followed by other types of diversity.

However, when asked what aspect of diversity was top of mind, 55% of interviewees said personal/neuro/ personality, 11% said gender and less than 1% said race, suggesting that ethnic diversity is not really on the Board's agenda.

The 'code' that unlocks greater ethnic diversity for the Board was found to be:

- Have a Board where directors are motivated to do the 'right thing' for the 'right reasons'
- Actively monitor the pipeline (internal and external) of potential board candidates, including regular reporting to the main Board, not just the nominations committee
- Ensure they have an inclusive culture by specifically asking themselves and their people about how to make their company attractive to minority candidates

- Get feedback on who expresses interest in posted roles and, if the pool is not diverse, go back to the Board to explore why the signals your company is sending are not being seen as diversity friendly
- Be intellectually flexible by looking at challenges from multi-dimensional perspectives, and being more open to recalibrating opinions based on new data that challenges their current thinking
- Have a Chair who is considered by Board members to be a good listener
- Be highly coordinated, where strong targets and clear policy is enforced in order to push through necessary cultural change.

However, at all times it is important to remember that it is not just about bringing in ethnically diverse individuals but also about retaining them.

Sir Trevor Phillips

Trevor was the first Chair of the Equality and Human Rights Commission and so was responsible for much of the law and policy in the ethnic diversity space. He is now Chair of Green Park, a boutique recruiter dealing at Board, plus Board-1 and Board-2 levels in corporates, placing around 400-600 individuals. Of these, 55% are women and 30% are from ethnic minorities so some of the barriers that appear to face other headhunters do have practical solutions.

However, FTSE 100 companies only have 11 black Board members in total and there were no black Chairs, CEOs or CFOs in Green Park's latest survey. The pipeline of black Board members is only around 9.3% and this is most common in the health sector where many employees come from a black or minority ethnic background. It is perhaps worth noting that 73% of heads of diversity in large companies are white.

Every NED should reflect that it is not about whether an individual is a 'good' or 'bad' person but about how the business uses its resources effectively. Post Charlottesville there was an initiative to 'bring your whole self to work' but African Americans avoided talking about their racial heritage and 40% said they would never talk about race at work. But why should this be so difficult?

Unlike other lines of division, race can lie behind an opaque curtain. Most people will share some kind of connection with the opposite sex and we all expect to get old, but race can somehow feel like an area of fear and uncertainty, and an area where NEDs and others are worried about doing or saying the wrong thing. There is therefore a need to find the language to talk about this.

One way of making progress is by really focusing on the data. This makes it easier to have a conversation and will also highlight where the issues lie.

To really know what the problem is, data has to be granular. For example, a company that hired West Africans hired mostly Ghanaians and no Nigerians so why is this? Previously, Oxford University's recruitment process was criticised but it was more that white people who applied understood the system better. They knew more about the least competitive subjects whereas black people were applying for areas such as law, medicine, etc. which offer professional security but are also the most competitive. To some extent, black families needed better information about how to navigate the system.

NEDs need to express diversity and inclusion issues in the language of business. Small steps can make a big difference – such as knowing how someone's name should sound – and race equality matters. NEDs can help in the following ways:

- Do the easy stuff first (locked room conversations)
- Focus on the numbers (e.g. the ethnicity pay gap ensuring the system is not being 'gamed')
- Champion getting deep insight.

Black people often join an organisation and then leave three to four rungs below Board level because, at that level, what peers and those above you think about you matters. NEDs should try to get their companies to think in a more nuanced way and take 'what people think people like you are like' out of the equation.

Ethnic pay gap reporting

Ethnic pay gap reporting is currently still voluntary although interest in this area is growing. BEIS published a consultation in 2018 and received more than 300 responses but has not yet produced a final report. Many organisations have been making good progress with diversity analysis and reporting but this has been mainly focused on gender data to date.

In order to analyse data beyond gender you must first collect it, and this relies on employee self identification. There is growing interest in embarking on this journey – especially given the increased focus on fairness relating to ethnicity over the last year, a desire to report on ESG metrics and growing stakeholder pressure.
Collecting diversity data is complex and there are a number of considerations such as data privacy, discrimination law, building trust through communication, HR system enablement and analytics.

A PwC survey in 2020 found that:

- The number of companies voluntarily disclosing their ethnicity pay gap had risen from 3% to 10%.
- A further 8% intend to disclose their gap next year and a further 40% in the next 1-3 years.
- 23% of companies surveyed have calculated their ethnicity pay gap in 2020 (versus 5% in 2018) and an additional 33% are planning to calculate it.

Some of the drivers for this are:

- to better understand workforce inclusion
- transparency and accountability
- ESG reporting
- Identifying actions that will drive change
- regulators
- employees
- investors
- other stakeholders.

Prospective employees in particular are looking closely at diversity and inclusion policies before applying.

However, any ethnicity pay gap reporting needs to be done at a detailed level otherwise one population, such as Chinese, can mask the results for another, such as black. Ethnicity pay gap reporting has therefore become more granular and PwC has now broken its results down by black, Asian, Chinese and mixed ethnic groups. Being more open with this information drives accountability and a desire to show improvement. NEDs should therefore challenge their organisations around why they are not reporting the data and look for an action plan to improve diversity and inclusion.

There is a need to increase the diversity of talent in all its guises which is why PwC also discloses socioeconomic and disability pay gaps. There are now targets to achieve in all areas, as well as plans to stem attrition, but detailed data is needed to set this up.

Open forum Q&A

It is depressing that a business case still needs to be made for ethnic diversity as there is clearly a strong moral case.

Agreed, which is why doing the right thing for the right reasons as mentioned above is important but equally organisations need to be open to challenges where cultural change is required.

It is assumed that most of the interview sample was white? People still don't want to 'do diversity' for its own sake.

The interviewees were primarily a white group, although a number of non-whites were interviewed. It is true that some reticence remains towards 'people who are different from me'.

Chairs listening and driving cultural change would be good but many Chairs are in a protected bubble. Black colleagues were poised for change after the death of George Floyd but it hasn't really happened. Organisations should be concerned that they are unable to recruit or retain black talent.

Agreed. Insight into who is applying for roles is also important to ensure diverse candidates are not being put off at that stage.

Open forum Q&A (Cont'd)

As an ethnic minority NED, how can you stop yourself being dragged into 'solving' this issue?

A while ago there would have been no choice but it is true that ethnic minority NEDs should not be automatically burdened with solving a problem they have not created. They should be happy to play a part but it is not their problem and was created by the majority. Employee resource groups can be helpful and there are networks supporting, for example, race equality chairs.

Much of this is about the majority getting comfortable with the minority. How can we tackle innate biases?

Green Park has done some practical work on this and Binna Kandola has also written powerfully in this area. Trevor Phillips and Andy Haldane are among others who have raised the question of bias. In part, it's about the process of making choices. If the job is to assemble the best team, it's about assessing the whole team before assessing the job to be filled.

In addressing bias and barriers, there is a difference between mentorship and sponsorship and isn't active sponsorship what is needed?

Those companies that do this well are sponsoring rather than mentoring. Mentoring can be defined as what happens when the mentee is in the room whereas pivotal sponsorship moments happen when the individuals are not in the room and the sponsor brings them to the mind of others.

Coqual are world experts on sponsorship and it has been shown to work. However, it is also true that black men are the least likely segment of the population to be sponsored, including by other black people.

What is the measure PwC uses to determine socioeconomic background?

It is the metric recommended by the Social Mobility Commission of parental occupation when the individual was 14.

As a final observation it was noted that the healthcare regulator had previously tried and failed to progress ethnic diversity which was considered particularly important as many of the workers in that sector had a black or ethnic minority background. Some progress has now been made via apprentice directors who will go on to be full board directors. It is not a perfect solution but it is worth reflecting on in order to make progress.

59%

of FTSE 350 companies did not meet target of having one non-white individual on their Board in 2020

<1%

of interviewees said racial diversity was front of mind v 55% for personal/neuro/personality diversity

10%

of companies voluntarily disclosed their ethnicity pay gap in 2020

A global and UK economic update

(January 2022)

Even before the pandemic, recent years had seen the emergence of new economic risks facing businesses, in the UK and globally. Here, Brexit has changed the UK's relationship with its key European trading partners. At the same time, the US has been following an 'America first' approach. Following the pandemic, there is possibly a greater risk that increasing protectionism could threaten the environment for trade and investment which global businesses have taken for granted in recent decades.

While economic forecasts show the world economy rebounding strongly, not all countries and sectors are benefitting equally – with poorer, developing countries which are less able to access vaccines likely to lag behind in the global recovery.

The recovery from the pandemic is bringing other challenges. Inflation is rising in many countries, accompanied by skill shortages, disruption to logistics, and shortages of materials and key components. These issues are having a widespread impact across many countries and sectors. This was an opportunity to reflect on the above via a global and UK economic update from Dr Andrew Sentance.

Presenter:

Dr Andrew Sentance – Senior Advisor to Cambridge Econometrics, former member of the Monetary Policy Committee of the Bank of England and Senior Economic Advisor to PwC from 2011 to 2018

At a glance

- The UK's fall in GDP in 2020 has been the second largest in the last 300 years.
- There has since been a recovery to pre pandemic levels but the rebound has varied greatly across sectors.
- The UK has been impacted by both the pandemic and Brexit.
- The global economy has seen a similar recovery but a 'new normal' may be emerging post pandemic.
- The current inflation surge will continue through 2022 and possibly beyond.
- Interest rates will continue to rise.

The views Andrew expressed on the UK and global economy are set out below.

Impact of pandemic/lockdowns + economic rebound

The 9.4% decline in UK GDP in 2020 when the pandemic struck was one of the worst seen in the past 300 years, only surpassed in 1921 which saw a decline of 9.7%. The last run of bad years occurred after WW1 and even the global financial crisis of 2008, various oil price shocks and the recession of the early 1990s did not contribute to GDP falls of more than 5%.

Since this dramatic fall in 2020, there has been a big rebound. Subsequent lockdowns had a less dramatic effect, as they were less severe and the economy had adapted to working from home and the move online. Now UK GDP is at a level marginally above that of the pre pandemic period but the large rebound needs to be seen in the context of the significant fall. Headline growth figures for 2022 are forecast to be 4-5% (and the increase in GDP was 7% in 2021) but these still include an element of rebound.

Additionally, recovery has been different across different sectors. Not surprisingly, health and social care has seen a very strong recovery. More surprisingly, this is also the case for arts and entertainment but this may be due in part to a catch-up effect and may not be maintained long term. Retail has also recovered well although it slipped back more recently as people shopped early for Christmas.

UK outlook

The UK has been impacted by both Brexit and Covid. Pre pandemic, PwC and the CBI had forecast a loss of about 3-3.5% of GDP during the early to mid 2020s due to Brexit and pre pandemic the UK was largely tracking this. The overlay of the pandemic is likely to lead to a gap in UK GDP of around 6% overall by the mid 2020s.

The key implications of Brexit have been:

- an increase in non-tariff barriers: more regulation and paper-work related to trade with the EU
- movement of labour between the UK and EU is more restricted – affecting businesses and individuals
- the UK is now a less attractive location for international business, due to reduced access to the Single Market
- the UK gains flexibility (theoretically) on business regulation and to strike trade deals outside the EU.

To date trade deals have only been struck with territories such as Australia and New Zealand with whom there has not traditionally been a significant amount of trade, partly because they are a long way from the UK.

Global outlook

World GDP fell by around 3.5% in 2020 when the pandemic struck and has since recovered strongly. However, as for the UK, the strong rebound needs to be seen in the context of the significant fall. Recent data may suggest that the recovery will not be quite as strong as currently appears and more inflation may be coming. Like the UK, global GDP may ultimately settle 3-4% below the level pre pandemic. Poorer countries with less access to vaccines and less robust institutions or business sectors may find it harder to recover.

The US has bounced back more strongly than Europe, and the UK is somewhere in the middle of the pack when compared to its European neighbours. However, globally the story is not that different to the UK, and the US, the UK and the Eurozone are all showing similar patterns. 2021 and 2022 have been recovery years which will settle down to a more modest rate of global GDP in the first half of the decade.

The outcome of this is that the 2020s will be a disappointing decade for UK GDP growth estimated at around 1.5% overall. This is not necessarily surprising due to the structural change in the UK economy with the shift to services and lower productivity growth. It will be the third consecutive decade of growth below 2% and is part of the progressive slowdown since the 1960s due to long term factors affecting developed Western economies like the UK.

The legacy of disruption from the pandemic is:

- ‘scarring’ of the economy due to business closures, increased debt and employment disruption
- level of economic activity not returning to previous trends in many countries
- some health-related restrictions and uncertainty likely to persist and act as a drag on growth
- increased levels of public borrowing
- inflation threat from injection of large monetary and fiscal stimulus due to crisis measures.

‘Normal’ processes are not returning quickly. Public borrowing has risen to very high levels, although it is coming down now and is not a real cause for concern while interest rates are low and the debt can be easily serviced. However, the recent surge in inflation is continuing, partly as a product of the large monetary and fiscal stimulus during the pandemic which has caused an imbalance between demand and supply.

All of the above may be leading to a 'new normal' post pandemic:

- increasing interest in and policy support for the 'Green agenda'
- more business taking place online
- home-working as a longer term option
- the changing role of the office
- increasing awareness of health impacts on the economy/wellbeing
- greater emphasis on 'soft capital' (health, education, etc.) vs hard capital investment
- a reshaping of the services economy, particularly affecting hospitality and travel.

The green agenda will remain long term and will have many impacts such as changes to power, transport, building construction, etc. Equally it can take a shock (like the pandemic) for business to adapt to new technology, and the move online and greater home-working are unlikely to now reverse.

Inflation

The CPI was 5.4% in December 2021 which is the highest rate since March 1992. There is a broad range of possible inflation measures. The annual increase for manufacturing input prices was 13.5% and increases in house prices and factory gate prices were 10% and 9.3% respectively. Taking a crude average of a range of possible measures gets to an inflation rate of 6.5-7%. There are indications that the CPI will reach this level in the spring and such a level has already been seen in some European countries and in the US.

Inflation is coming from a number of factors including:

- rising energy prices
- supply chain disruption and materials shortages
- skill shortages and wage pressure
- ending of temporary tax cuts and business support
- longer term tax and business cost increases
- long period of loose monetary/fiscal policy
- rising inflation expectations.

The first three are very much here now – there are 1.2m job vacancies currently versus 700-800k pre pandemic – and the last four are coming/likely to prolong the current surge in inflation. Even once through the initial surge, some of the shorter term impacts on inflation may prove to be more persistent such that inflation is forecast to be around 4% for the second half of 2022, double the Bank of England's target rate.

The UK net public debt as a percentage of GDP has risen significantly. The debt to GDP ratio was 30-40% in the late 1980s/early 1990s but is now around 100%. However, this current level is more reflective of the historical average and a mature economy like the UK can service this, particularly when interest rates are low.

Interest rates and fiscal policy

The key points here are:

- The inflation surge and recovery point to a move away from 'emergency' interest rates established in the pandemic.
- A move up to 1-2% Bank Rate in the next 12-18 months is justified and is now looking more likely.
- However, the MPC has sent confusing signals on interest rate policy recently and many times before.
- Rishi Sunak is right to rein back on fiscal support as the economy recovers.
- However, this should be a gradual process over 3-5 years, not 1-2 years – and the Chancellor needs to be aware of adding to the inflation surge.
- The risk is that the Chancellor will be too austere, and that this aggravates current inflationary pressures – adding to business costs and stalling the recovery. As an example, the proposed NI rise is now being debated as being too soon.

Key conclusions and implications for business

- The rebound from the pandemic/lockdowns has largely happened already.
- The inflation surge will continue through 2022 and possibly beyond.
- Interest rates will continue to rise.
- Tax and regulatory policy will be 'unhelpful' to business in the UK, whichever party is in government. Government intervention once started can be hard to move back from.

Open forum

What impact could the US/Russia conflict have?

If the sabre rattling continues and leads to economic sanctions then this will not hugely shift the economic dial due to the size of the Russian economy ($1trillion versus $20trillion for the US). However, if there is a military conflict, this could disrupt the global economy as Russia is a significant military power.

Are there any further comments on the slowdown of China's economy?

There is no need to be too alarmed by this. The growth in China's economy was previously predicted to slow to 4% as it matures and this is still 4% of a sizeable economy. China will continue to grow at higher rates than elsewhere because the regime is directive. However, the growth will slow as the economy matures and the Chinese Government is realistic about this but keen to deliver enough growth to keep the population happy. It will therefore still be a positive story just not as strong as before.

What impact could China versus US competition have on global trade?

Over the past decade the process of globalisation has been disrupted by a number of factors. The global financial crisis exposed weaknesses in the system and the pandemic has illustrated vulnerabilities in the movement of people. This has all led to a tide of protectionism. Some of Trump's 'America first' views were directed towards China and China retaliated which is not helpful to the world economy. The Democrats tend to be quite traditional in their approach so there will be no change with Biden and no big boost for globalisation.

How long will it be before the issues in global supply chains, and especially with regard to semiconductors, are resolved?

These are likely to continue at least until early 2023 although there is an incentive for business to sort this out sooner.

Should we be concerned that the UK public debt figures do not include £1trillion of unfunded public sector pensions?

This is true but equally there are other factors not accounted for that would move in the opposite direction, e.g. the Bank of England debt should arguably be deducted as it is a government department. Net net the impact of adjustments is unlikely to produce a significantly different picture and it is probably better to stick with the conventional definition to allow for historic comparisons.

Are skills shortages likely to ease as furlough fades away?

This will probably not happen quickly when viewed in relation to the UK's current vacancy figures as this degree of labour shortage has not been seen since the 1970s. Arguably, furlough may have disrupted the connection between employees and their employer, plus there is the Brexit impact on top which suggests the labour shortage is likely to persist.

Has the pandemic masked the true Brexit impact?

As indicated earlier in the attempt to disentangle these, the current gap in GDP compared to its level before the Brexit vote is around 6-7% and approximately half is due to Brexit and the other half the pandemic. Business took a more cautious view in relation to investments between 2017 and 2019. Slow productivity growth is also not helping the issue.

Will trade deals done move the UK GDP dial?

The ones that have been done to date, e.g. Australia, will not really do this as the countries are a long way away and trade volumes are not high. It may be difficult to land really good deals with the US, India and China so there may not be much boost from new deals overall. There is a real need to make the relationship with Europe work.

If inflation could go up to 7% this year, what is the outlook for 2023 and 2024?

Inflation is likely to move closer to 4% towards the end of the year and will stay here for a while before getting back towards the Government's target of 2%. Employees will seek greater compensation so there will be upward pressure on wages.

Open forum (Cont'd)

The slide that showed the recovery by sector suggested a contraction in the IT and communications sector – why is this?

This is a little difficult to get behind but there have been a lot of cost increases in that sector. Additionally, there is often a measurement issue in the virtual economy and there is probably a need to look at a longer period for a true reflection.

Structurally there are some big changes to how the economy operates with working from home and changes to travel models, amongst others. Where is the debate around this taking place and what are the potential impacts?

There is considerable uncertainty around the long term impact. The view that there will be no impact is clearly implausible but where this comes out on a range between little impact to a substantial effect depends in part how business behaves. More flexible patterns of employment are definitely likely to remain and were part of a long tern trend even before the pandemic. The UK's Office of National Statistics and the Institute for Fiscal Studies are both providing updates on this area.

Where is the housing market likely to go post the 2021 increase in value?

The undercurrent to house price inflation has been a shortage of supply and increasing demand. Higher interest rates may cool this a little but house price inflation is still likely to run higher than the general level of inflation.

Given the levels of public debt and extreme pandemic related fiscal policy measures, will the Bank of England be restricted in terms of monetary policy?

As noted earlier, debt is less relevant but the Bank of England will take account of fiscal policy. It is not necessarily what the Bank of England does that is important but the way it does it, as it should be mindful of the need not to disrupt the economy.

Could higher energy prices tip the world into recession and should we therefore be worrying about that rather than inflation?

Oil prices were $150 per barrel in 2009 and are now around $80-90 (January 2022). If this rose to the previous high levels, it might be an issue but now there are more alternatives available. It is only likely to disrupt the economy if it is long term.

Will impending energy price rises be catastrophic to individuals and energy intensive businesses?

This is quite likely. The energy sector is struggling as a lot of companies were encouraged to enter the market but did not have appropriate business models to deal with the volatility in energy prices. There will be another surge in inflation when the energy price cap is adjusted in April.

Will actions to address climate change have a specific effect on the economic forecasts?

There should not be a negative impact and the change may be more structural in that the make-up of the economy is likely to change and there will be different types of economic activity. Businesses that embrace this will be winners but spectacular growth rates are still not expected with 1.5-2% being normal.

Are there regional differences in the UK's economic outlook?

The levelling up agenda is a long term issue that has seen various attempts to solve it over the years. The fact remains that London and the South East is a magnet for economic activity and there is a need to work very hard to combat this. Infrastructure is an important element of levelling up but a more consistent long term approach is needed. Additionally, there is not just a north-south divide but also north-north and south-south divides as there are pockets of depressed activity that need addressing. This also applies to areas in Scotland and Wales.

What are the most important drivers behind the current inflation surge?

Looking backwards it was energy price rises but looking forward skills shortages and the Government's withdrawal of support become more important. It is therefore a balancing act between the past and the future but the Bank of England only has one main lever. Nevertheless, the Government has the ability to weather the storm so any adjustment to interest rates needs to be made slowly.

Open forum (Cont'd)

Is the ability to forecast inflation becoming harder due to new ways of working, robots, etc.?

This is true in part but it has always been difficult to capture structural changes in the economy. It is, however, certain that we will need to pay more for energy so this should be factored in.

Is the current UK political crisis having an impact on UK productivity, etc.?

The currency and other markets have largely taken this in their stride, probably because there is underlying confidence in the democratic institutions. The first coalition government in 2010 was a testament to this and therefore the UK political system is unlikely to degenerate.
Prime Ministers may come and go but this should not undermine stability.

3.5%

fall in world GDP in 2020

5.4%

CPI in December 2021

A global political update – top 10 risks for 2022

(January 2022)

A year ago, Eurasia Group, the global political risk research and consulting firm, warned us that globalisation was under siege.

Since then, the public health emergency as a result of the pandemic has deepened geopolitical concern as the US and other developed nations have appeared reluctant to drive an international response, and China has been focused internally on 'zero Covid' policies. More broadly, the pandemic has forced many countries to look inwards, leading to, as an example, the disruption of the global flow of goods and services. All these factors, combined with the legitimacy of domestic politics and the weakness of existing international alliances, provide a very different global backdrop to anything experienced in recent decades.

At the start of each year, Eurasia Group publish their top 10 political risks forecast to play out over the next 12 months. A number of their 2021 predictions which included the de-legitimisation of the US election, significantly worse US-China trade tensions, cyber risks and raised geopolitical stakes for Europe have already been borne out. This was an opportunity for Naz Masraff, a director from Eurasia Group, to help attendees explore the multiple ways politics may affect the business and economic environment over the coming year.

Presenter:

Naz Masraff – Director, Eurasia Group

At a glance

- There is currently a lack of political leadership characterising what Eurasia Group are describing as a G-zero world.
- Within this context their top 10 risks for 2022 are:
  - No zero Covid
  - Technopolar world
  - US midterms
  - China at home
  - Russia
  - Iran
  - Two steps greener, one step back
  - Empty lands
  - Corporates losing the culture war
  - Turkey.
- Their red herrings are:
  - The US and China are not locked in a new Cold War, and the risk of conflict over Taiwan is exaggerated.
  - Brazil's democracy is not at risk as their institutions are strong.
  - There will be no repeat of the 2015 migrant crisis in Europe.

The views Naz of Eurasia Group expressed are set out below.

Context

There is currently a lack of political leadership characterising what Eurasia Group are describing as a G-zero world. China and the US are both focused inwards. The US is the most powerful nation globally but is also the most divided, as well as being the least vaccinated among the G7. China is also inwardly focused and not prepared to step into the void to take the lead.

This lack of global leadership comes at a time of two significant global risks – COVID-19 and climate change – and countries are underperforming in terms of collaborating on these. More positively, the risk of a cold war has decreased with the inward focus.

Eurasia Group have set out the following as their top 10 risks.

No zero Covid

In advanced nations, the pandemic is becoming endemic while others, including China, are still feeling the pain. China's zero Covid policy will make it vulnerable as it will fail to contain infections, leading to more lockdowns, continued disruption to supply chains and greater dissatisfaction internally. There is unlikely to be real progress until vaccinations are rolled out, optimistically by the end of 2022, and this is not really where Xi wants to be in the run-up to the Party Congress.

China's situation is likely to lead to persistently high inflation, continued shipping constraints and lack of raw materials and equipment, although this may hopefully ease towards the end of the year. Many incumbents are taking the blame for the high levels of inflation. In addition, other less developed countries are not as far advanced in their vaccination programmes. In summary:

- In developed countries, Omicron is colliding with populations vaccinated with the best vaccines.
- However, that is not true in China, the world's primary growth engine, where the zero Covid policy will fail.
- Larger outbreaks in China will mean tougher lockdowns, more state intervention and a more dissatisfied population.
- China's problems add to the disruption of supply chains which will present ongoing risks across the world.
- Overall, the gap between developed and developing countries will grow.

Technopolar world

This risk is around the influence of tech giants and governments' inability to control/lack of response to these. Many of the tech behemoths are acting as sovereign in the digital space and governments are playing catch up and are likely to have fallen even further behind by the end of the year. This could have implications for elections, national security and the online economy, amongst other areas.

Tech firms are creating a new form of geopolitics in the digital world outside of government control and the tech companies are not interested in governing this themselves. Some steps are being taken, such as the Digital Services Act in Europe and some anti-trust cases in the US, but this is really at the periphery. The same is true in India and China where there are only rearguard actions. In this toxic environment, US/China tensions are likely to increase and there will be trade-offs between innovation and governance. In summary:

- Big Tech is shaping our opportunities and perceptions of reality by making the rules that govern the fast-expanding digital world.
- Governments will try, with little success, to limit the tech giants' sovereignty over this expanding space.
- Tech firms aren't ready to govern these areas of our lives effectively.

US midterms

The upcoming US midterms are one of the most important elections in US history because of the implications for the 2024 election. Although Biden's election is looking difficult, this risk is more to do with the credibility/legitimacy of elections in the US.

Eurasia Group think it is 90% likely that the Republicans will take the House and 60% likely they may also take the Senate. Trump will then run in 2024 and may try to steal the election if he does not win, claiming integrity issues. Regardless of who wins the midterms this year, US policy will remain frozen. The approval of the Building Back Better agenda in 2022 is unlikely. There will be fewer new laws and the focus of policy is shifting to different states where there may be divergence. This gridlock in the US makes resolving transatlantic issues, e.g. Boeing and Airbus, very difficult. If Trump gets back in, there will be more isolationist policies and, if he loses, he will not go down without a fight, possibly paving the way for more domestic terrorism. In summary:

- Republicans will likely take back the House and maybe the Senate.
- Whatever the outcome, tens of millions will view the result as illegitimate.
- Midterms set the stage for the 2024 election and Trump will probably run.
- Trump may win and, if he loses, Republican congressional majorities could help him steal the election.

China at home

China tensions with the US are here to stay but Xi wants stability at home in the run up to Congress. As noted earlier, the zero Covid policy is creating social frictions which is a new issue for Xi. Firms seen as socially harmful could be under more scrutiny and therefore some of the bigger firms in China could face disruption. Capital is likely to be diverted to preferred areas such as green tech or semiconductors. Foreign companies could face increasing difficulty, especially if they also operate in the US. In summary:

- Coronavirus variants, weaker vaccines, and limited previous infections will test China's zero Covid policy in 2022.
- At the same time, Xi will attempt to impose his vision of technological self-sufficiency, economic security, and social harmony.
- This plan will face an exhausted growth model, an over-leveraged and unbalanced economy, a rapidly ageing population and intensify pushback from the West.

Russia

Russia is more expansionist in the geopolitical field than China and therefore is a top risk. Moscow is keen to reshape the political architecture in Europe. Eurasia Group think it 60% likely that there will be a diplomatic solution to the current Russia/Ukraine crisis but there could still be an escalation to the use of force. Even without this, there could be sanctions and potentially dissemination of misinformation around the US midterm elections. The crisis also has implications for secondary market trading, security of personnel, energy supplies, etc. In summary:

- Russia's relations with the US and Europe are on the verge of crisis.
- Diplomacy will probably avert conflict in Ukraine, but the risks are significant.
- Russian interference in US elections and cyber operations could pose additional risks.
- A ban on secondary market trading of Russian debt will be the main US sanctions lever.

Iran

Tensions are expected to increase between the US/Israel and Iran as talks fail to reach a deal – Eurasia Group estimate the likelihood of a deal at 35%. Although Tehran says it wants a deal, the Iranians continue to enrich uranium. Biden has few options beyond what was achieved by Trump and will not want military strikes. Israel may engage in cyber attacks and sabotage which increases the risk of regional conflict. New US sanctions could mean higher compliance burdens, physical security and cyber risks, as well as upward pressure on energy prices. In summary:

- Tensions between the US/Israel and Iran will escalate, as nuclear talks fail to reach a deal.
- Israel will intensify cyber attacks and sabotage, triggering Iranian retaliation.
- The US will increase diplomatic and economic pressure, setting the region and oil markets on edge.
- The risk of Israeli airstrikes on Iranian sites is real.

Two steps greener, one step back

There will be mixed progress on the green agenda. COP26 made better progress than expected in terms of commitments but short term energy needs contradict with long term targets. There has been a detour back to fossil fuels in some countries to counteract the effects of the pandemic. Energy costs are high and the crises in Russia and Iran are exacerbating this. While the EU is trying to set global green standards, the US is seeing partisan divides and China's short term needs is trumping the green agenda. In summary:

- Long-term decarbonisation targets will collide with short-term energy needs in 2022.
- Rising energy prices will raise anxiety levels for both voters and elected officials – even as climate pressures on government increase.
- There will be few coordinated global responses to energy shortages.

Empty lands

The consequences of a G-zero world and the absence of a cold war mean that other conflicts will linger on with no decisive conclusion. This will lead to humanitarian and refugee crises and a heightened risk of terrorism in these areas. In summary:

- The US and China will focus increasingly on domestic problems, extending the G-zero vacuum of power and leaving many unstable places without effective crisis management.
- In Afghanistan, a disorganised Taliban will struggle to stop Islamic State from drawing foreign militants into ungoverned expanses of the country.
- The risk of terrorism also remains acute in the thinly governed Sahel.
- Civil conflicts will create new risks in Yemen, Myanmar, and Ethiopia.
- Venezuela and Haiti risk growing refugee crises.

Corporates losing the culture war

Many companies are now under pressure from both consumers and employees. Having a good quality product is no longer enough and multinationals will spend more time and money navigating cultural issues. Social media amplifies demands and the great resignation is adding to the pressure. A busy calendar of upcoming sporting events will also put sponsorships under the spotlight. More focus will be needed on supply chains and there will be regulatory uncertainty. The EC is developing global policy with European territories building on it. In addition, compliance with US consumer demands may lead to a backlash in China. In summary:

- The world's biggest brands look forward to record profits but a more difficult year managing politics.
- Consumers and employees, empowered by 'cancel culture' and enabled by social media, will make new demands on multinational corporations and the governments that regulate them.
- Multinationals will spend more time and money navigating environmental, cultural, social, and political minefields.
- Companies in the US and China face special risks.

Turkey

Erdogan's popularity is at stake and he will try to turn his low popularity around. The country will become more inward-looking with capital and price controls imposed in an effort to contain inflation and prevent currency volatility. Eurasia Group thinks this approach will fail leading to more volatility and a weaker economy. Erdogan may become increasingly unpredictable but he will not risk openly antagonising the US and Europe. However, there could be unorthodox moves against some companies and some European banks are exposed to Turkish banks. In summary:

- Erdogan will drag Turkey's economy and foreign standing to new lows.
- Economic policy will remain unorthodox and stoke more fiscal and inflationary risks.
- Erdogan's foreign policy will be erratic and impulsive, risking US sanctions.
- Early elections are possible in 2022.

Red herrings

Finally Eurasia Group outlined 3 red herrings where popular beliefs may not be the case:

Herring 1:

- The US and China are not locked in a new Cold War, and the risk of conflict over Taiwan is exaggerated.
- Their economies are more, not less, integrated.
- Both countries are distracted by serious domestic challenges.

Herring 2:

- Brazil's democracy is not at risk as their institutions are strong.
- If he wins, Lula won't be as bad as many fear and will be more environmentally friendly.

Herring 3:

- There will be no repeat of the 2015 migrant crisis in Europe.
- Europe's open door policy is now closed.

Open forum

How does the focus on domestic issues in China fit with Xi's aggression towards Taiwan?

Eurasia Group have the China/Taiwan issue as a red herring as they believe concern over Taiwan is overblown. Xi has used similar ploys before and is not close to 1995-6 levels of provocation. Taiwan is sticking to China's red lines. Xi understands China risks defeat, sanctions and isolation and realises that waiting may be better. The longer Xi waits, the more the military balance of power will shift in favour of China.

Is China being more successful in preventing its own tech companies from being ungovernable?

No territories have been successful in this but China may be slightly more so due to having a more directive regime.

If there are severe sanctions against Russia, how will this play out in the EU given the dependency on gas?

Overall, a full suspension of Russian gas exports remains unlikely. However, if that were to materialize, there would be huge spikes in energy prices. The US is helping Europe find alternative energy sources, such as from Qatar, as Europe's limited reserves would only last 2-3 months. However, every week that passes with no invasion is a week closer to Europe emerging from winter.

Cyber attacks by Russia or cutting power would also impact China financially so would China take action?

China would watch to see what the US and its allies do but may potentially step in eventually. Russia and China have been getting closer but China remains somewhat sceptical.

Open forum (Cont'd)

Corporates losing the culture war is a curious phrasing of this risk – how widespread and enduring is the current 'cancel culture' and is it not better for humanity?

It will continue throughout 2022 and beyond, amplified by social media. Consumers and employees are driving change which does make for a difficult operating environment – hence the choice of wording from a corporate perspective.

Are corporates doing enough in relation to human rights and inclusion as progress appears to be slow in this area?

This is progressing but in baby steps to some extent. Corporates often look for safety in numbers and lobby for the watering down of requirements. However, pressure in this area will continue and companies should ensure they have flexible and agile supply chains and constantly monitor them.

What was the ability of banks to have dealt with inflation at an earlier stage?

Inflation is currently a global problem and will be felt most in emerging markets where there were already limited fiscal buffers. Growth will therefore disappoint in emerging markets. Exiting from policies put in place to support individuals and companies during the pandemic will create further financial distress. Vaccines still need to be provided in many territories and there is likely to be more conditionality when international financial institutions offer help. This will deepen the sense of injustice as well as actual inequality between developed and emerging nations and place greater pressure on incumbents. In addition, governments are struggling to regulate crypto currencies and there is regulatory divergence in this area.

Do the interaction of risks 4 and 9 mean that more corporate withdrawals from China are likely?

Probably not – US companies think their exposure to the Chinese market will increase. However, organisations having to choose between the US and China may become more common.

Are there any suggestions for preventing the two steps forward one step back on the green agenda?

To some extent, the rising energy prices were unexpected and so it is impossible to control everything. There is a need to have a better strategy regarding investment with a more holistic approach, i.e. not just renewable energy but also storage.

Europe did not feature in the top 10 risks but does Eurasia Group have any views on everything that is going on?

With regard to Brexit, Eurasia Group do not expect a trade war this year. Boris Johnson will probably be replaced and this may delay progress on the EU front, though. In France, Macron will probably win the election and, if he does not, it will be another centre right candidate so this will not be a market moving story. Rule of law issues in Europe, for example problems in Hungary and Poland, may block the flow of funds to these member-states and impede their cooperation on other key issues, such as progress on climate action.

90%

likely the Republicans will take the House in the US midterms and 60% likely they may also take the Senate

Remuneration Committe update

(November 2021)

There have been conflicting pressures when it comes to executive remuneration in the context of COVID-19. Many investors expect companies to demonstrate pay restraint but generally accept that executives still need to be incentivised. A delicate balance has been needed to recognise the leadership and resilience of executives but also the effect of the pandemic on the company's workforce, customers, shareholders and wider society.

Remuneration Committees had to be transparent and explain why executive pay outcomes for 2020 were appropriate. The 2021 AGM season illustrated that many companies were indeed exercising restraint. Bonus and long-term incentive targets and outcomes were the most contentious area, particularly where companies had accessed direct government or shareholder support.

To add to the existing complexity, there is also the matter of whether, and how, executive pay should be linked to ESG targets as this area grows in importance among investors and other stakeholders. PwC recently collaborated with the Centre for Corporate Governance at the London Business School to produce a report 'Paying well by paying for good' which emphasises how tricky it can be to get this right. Many Remuneration Committees are at a relatively early stage in grappling with this issue.

At a glance

- The 2021 AGM season showed that 2020 pay was constrained and investors were challenging.
- Retention risk at top level is higher than ever.
- Companies who demonstrated support for all employees gained good ground but this also raised expectations going forward.
- There is huge societal and commercial focus on ESG but it needs to be brought into executive pay in a way that aligns with the company's strategy.

Presenters:

Gemma Carr
PwC Director

Chris Hunt
PwC Director

Einar Lindh
PwC Director

Executive pay AGM season outcomes and looking forward

In general, executives' median bonus and LTIP outcomes for the year fell versus the prior year. There was clear guidance from shareholders that if government or shareholder (in the form of cancelled dividends) support had been taken, this should feed through to lower pay outcomes. In addition, the financial performance of companies was heavily impacted in some sectors. Median pay for executives has therefore dropped year on year and there has also been a much greater spread of outcomes versus 2019, with some outcomes down to zero.

Most company bonus decisions were aligned with shareholder expectations. Nine FTSE 100 companies had both utilised government support and suspended dividends and none of these paid a bonus, despite a few having a 'formulaic' bonus outcome. There was a strong sense that taking money from the government or shareholders whilst paying executives bonuses was unacceptable and would not stand up in the court of public opinion. 75 FTSE 100 companies were able to maintain their dividend and not take government support but a number of these still exercised downward discretion. Half of the FTSE 100 also froze salaries (versus around a third in prior years).

In relation to the potential for future windfall gains in respect of LTIP grants due to lower share prices:

- 54% of the FTSE 100 made no changes to their planned LTIP grants
- 30% made up front adjustments
- 16% committed to reviewing windfall gains at vesting and exercising downwards discretion where necessary, although how they will do this remains to be seen.

Following the last revision of the UK Corporate Governance Code, two issues provoked some concern – the post-employment shareholding requirement and aligning incumbent executive pensions with those of the wider workforce.

The majority of FTSE 100 companies now have a post-employment shareholding requirement in line with IA guidance:

- 94% have a post-employment shareholding requirement
- for 73% this is 100% of in-employment requirement for 2 years
- 22% taking a new policy to vote have increased the shareholding requirement.

Most FTSE 100 companies have disclosed a plan to align incumbent pensions with the wider workforce by 2023:

- 57% have pensions already aligned
- 91% will have incumbents aligned by the end of 2022, or have already done so
- 100% have new executive joiner pension rates aligned to the wider workforce.

Support for remuneration resolutions has fallen in the 2021 AGM season. 80% of FTSE 100 companies received >90% of votes for the remuneration report with 86% receiving >80%, but these levels of support were lower than in prior years. Three companies lost their vote receiving under 40% and the triggers for these were either companies adjusting their targets or due to incentives for a leaver. A similar pattern has been seen for policies with generally lower support. There have been fewer policies up for a vote, as it is not a majority year in the cycle, but a greater level of challenge has been seen with lower support almost always due to increased quantum or new schemes, such as restricted stock without an appropriate discount.

ISS remains highly influential, often causing a 15-20% swing in votes, but the influence of IVIS is more mixed. ISS votes against were three times higher than in the prior year.

There appears to be continued restraint for executive pay in 2021, including in companies with new policies. A recent release from IA recognises that companies have been following their advice but have urged the continued exercise of caution. It is worth noting, however, that there are some different views with certain US shareholders backing executive management more as they recognise the need to hold on to them. This may become more pertinent with the 'great resignation' and executives assessing their futures.

In addition, the impact of the pandemic means that incentives are at risk and companies are affected by limited flexibility in their policies. Some executives will have seen three years of low annual bonus and the impact on LTIPs could also possibly extend over three years. This all leads to heightened recruitment and retention risk, especially in a hot talent market with private equity and US companies actively looking. Options within the policy may include:

- adjust LTIP performance outcomes (may be easier below Board level)
- increase salaries
- review target setting approach.

Salary increases may provide the most flexibility although this will need to be in line with the wider workforce. There is some flexibility within reviewing target setting but this needs careful judgement. There has been some evidence that above-workforce salary increases can achieve shareholder support. However, a strong rationale is needed, such as an expanded role.

To summarise the AGM season outcomes:

- in 2020 pay was constrained and for many companies there was downward pressure
- investors have been challenging
- 2022 is also likely to be challenging, although there is some sense of 'building back together'
- retention risk at top level is higher than ever.

Wider workforce considerations

Boards and the Remuneration Committee are now seen as custodians of the wider workforce, including their remuneration, to avoid a disconnect between the workforce and executives. There was previously a concern that the wider workforce was being left behind but this has started to reverse somewhat. Prior to COVID-19, change was already happening within the work and reward landscape with the following key trends:

- emerging technologies and the skills to use them creating a global talent marketplace
- fairness and diversity requiring scrutiny and investment
- the changing demographics of the workplace demanding more focus on wellbeing and ethics
- automation of jobs impacting the types of roles available and the shape of the workforce
- new priorities around environmental awareness and work-life balance.

The pandemic then accelerated much of this and has reframed the world of work. The expectations of employees have changed and almost 60% of respondents to PwC's annual Reward Overview survey named retention as one of their top three priorities.

Companies who demonstrated support for all employees gained good ground but this also raised expectations going forward.

Several types of reward intervention are being considered such as:

- 81% targeted salary adjustments
- 30% more attractive benefits
- 24% ad-hoc cash bonuses
- 16% increased equity awards.

However, the rewards are not just financial and reshaping reward in response to hybrid working is also encompassing:

- globally-agnostic working arrangements
- decrease in office demand (between 15 and 50%)
- greater customisation of the reward deal
- shift towards low-density workplaces with the office as a destination
- embracing flexibility to unlock/retain talent.

ESG in executive pay

There is a huge societal and commercial focus on ESG. PwC's 2021 global investor survey showed:

- 67% of investors believe that ESG performance measures and targets should be included in executive pay
- 86% of investors believe that ESG measures help to ensure managers focus on non-financial factors that drive long-term shareholder value
- 50% of investors believe that ESG measures should still be included in pay if these measures conflict with long-term shareholder value
- 10-30% of executive incentives should be weighted to ESG (10-20% currently in practice).

However, ESG needs to be brought into executive pay in a way that aligns with the company's strategy and not just as a tick box approach. This requires careful thought.

Investor attitudes are definitely strengthening in this area. LGIM previously talked about ESG in terms of an underpin/hurdle but have now said the weighting of ESG metrics in long term incentive plans should not exceed 30%. ISS are adding language to indicate that ESG metrics should be tested in the same way as financial metrics and be 'material to the business and quantifiable' and Cevian Capital have stated they will vote against any company that has not included ESG targets in executive pay by 2022.

In terms of what is happening in the market, 60% of FTSE 100 companies have some form of ESG in their executive pay metrics versus 45% in the prior year and less than 30% the year before that. Around 20% of FTSE 100 companies have ESG in both their bonus and LTIP. Bonus metrics often focus on the social aspects of ESG, i.e. health and safety, diversity and inclusion, employee engagement, etc. LTIPs tend to have a greater focus on the environment because of their longer term nature. However, LTIPs only run for three years and most companies' net zero ambitions extend to 2030 or 2050 so there is a need to break this into steps.

Some good examples of companies linking their ESG metrics in executive pay to strategy were discussed. Disclosure is important, particularly where non-numerical metrics are involved. Output metrics are key but some companies that are at an earlier stage on their ESG journey may need to use input metrics. Most companies are likely to become more specific over time and use metrics that are quantifiable. Referring back to strategy will, however, remain important.

Open forum Q&A

How does pay restraint square with the talent agenda?

Coming into the pandemic, companies were able to hold down pay but executives have worked very hard and retention pressures are now being seen. Next year's AGM season is likely to be challenging.

In terms of salary increases, have there been different trends by sector?

If the industry has benefited over the period, some increases have been able to be maintained as long as they are broadly consistent with the wider workforce. The standing of retail increased in the eyes of the public during the pandemic but there have not really been any increases in hospitality where furlough was widely taken.

Is there likely to be catch-up in 2022 leading to pressures?

Yes. Some leaders have taken the position of not seeking an increase but have applied this for the wider workforce. Shareholders are likely to challenge any catching up.

The windfall gains point does not appear to be symmetrical, i.e. companies do not tend to issue more shares if the share price is unusually high. The logic to adjust for a low share price does not appear to follow efficient market theory as, in theory, shareholders could just buy more shares and also benefit from a future increase in share price?

Agreed but there is always shareholder scrutiny in this area with investors wanting to be sure that gains are due to management action rather than market movement.

How strong is the influence of Glass Lewis and PIRC?

Glass Lewis's influence is increasing but is still not having much impact on voting outcomes. PIRC has less influence, possibly because they have laid out strong and potentially unrealistic red lines.

Have there been any pressures on NED pay, e.g. for committee Chair or membership?

Most of this has already been in place although some movement has been seen in relation to the designated NED role for employee engagement.

50%

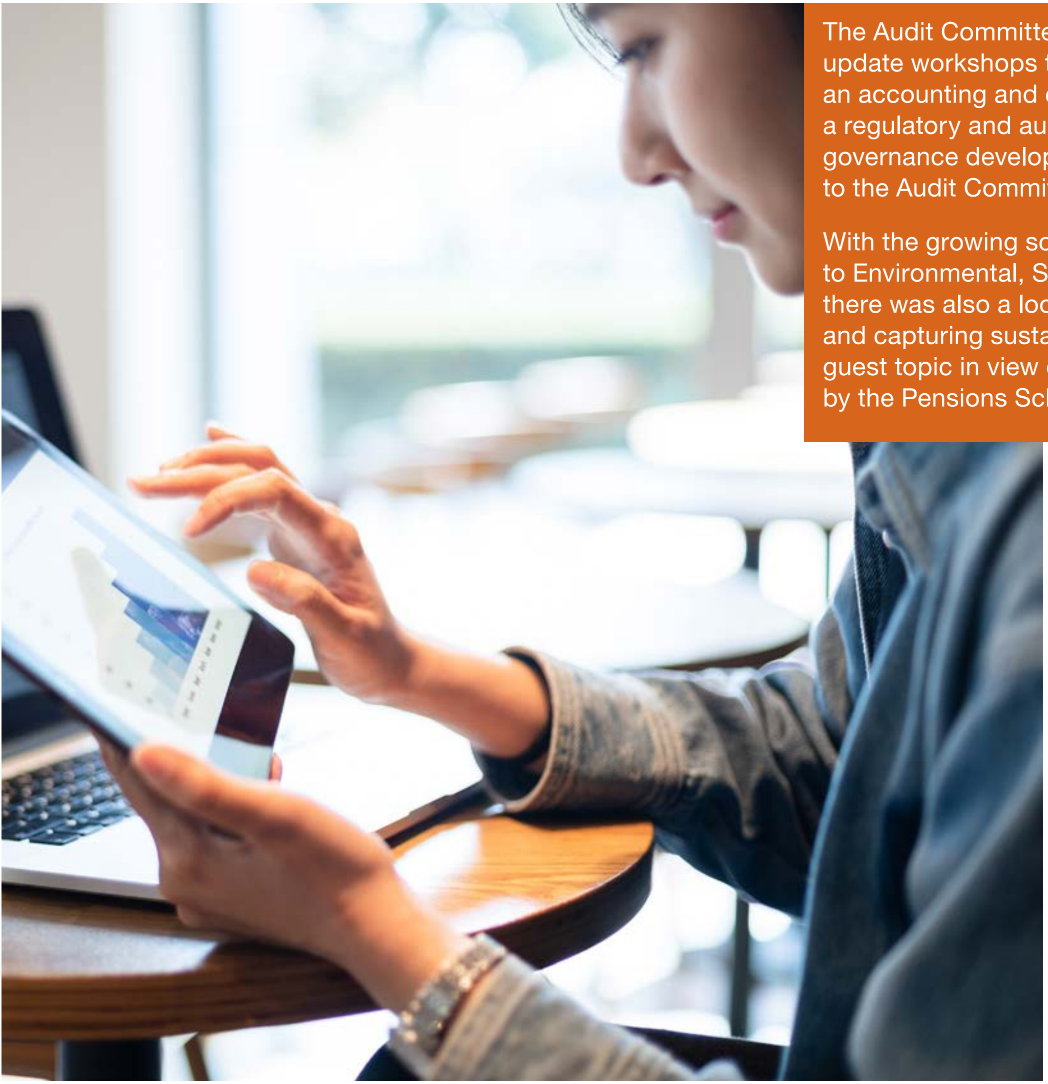
of the FTSE 100 froze salaries

67%

of investors believe that ESG performance measures and targets should be included in executive pay

Audit Committee update

(November/December 2021)



The Audit Committee Network hold technical update workshops three times a year which cover an accounting and corporate reporting briefing, a regulatory and audit update, corporate governance developments and other topics relevant to the Audit Committee agenda.

With the growing scrutiny on companies' responses to Environmental, Social and Governance matters, there was also a look at climate-related disclosures and capturing sustainability demand. Pensions was a guest topic in view of important changes introduced by the Pensions Schemes Act 2021.

Presenters:

Accounting update

Peter Hogarth, Partner, Accounting Consulting Services

Corporate governance developments

John Patterson, Corporate Governance Lead

Climate change

Mark O'Sullivan, Director, Corporate Reporting

David Marriage, Partner, Asset and Wealth Management Data & Analytics Leader

Assessing the effectiveness and quality of the external audit

Sotiris Kroustis, Partner, UK Head of Public Policy

Jayne Kerr, Director, UK Public Policy

Pensions reminders

Brian Peters, Partner, Pensions

Paul Allen, Director, Pensions

The sessions began with an update on accounting and corporate governance matters.

Accounting

There are some new areas to be aware of:

UK adoption of IFRS – this is the first year for many companies reporting under UK adopted IFRS. While this may have little or no impact on the consolidated financial statements, it might have an impact elsewhere in the group as certain exemptions and exceptions are no longer available (such as consolidated accounts for intermediate parent companies).

Interest rate benchmark reform – Disclosure requirements have been introduced to describe the impact (if any) of interest rate benchmark reform.

COVID-19 related rent concessions – IASB has issued an amendment to IFRS 16 to extend the COVID-19 rent concessions relief beyond 30 June 2021.

Cloud computing arrangements – The IFRIC has issued an agenda decision on Configuration and Customisation ('CC') costs in a cloud computing arrangement. The agenda decision includes steps which entities should consider in accounting for such CC costs.

ESEF (European Single Electronic Format) – The Financial Reporting Council (FRC) completed a thematic review of some of the early reporters and found that these reports fell short of the quality that is expected for companies' official filings.

The FRC published its Annual Review of Corporate Reporting (2020/21) in October, alongside a suite of thematic reviews. In these documents the FRC set out its expectations for the next reporting season, which include the following:

- Clear explanation of the significant judgements made by management, including those used in their assessment of going concern, with sufficient detail to understand the specific judgements made and their financial reporting effects.
- Clear description of key assumptions underlying major sources of estimation uncertainty, including information about the sensitivity of amounts recognised in the financial statements to changes in assumptions.
- Information in the financial statements to be consistent with that reported in the rest of the annual report and accounts.
- Material climate change policies, risks and uncertainties to be discussed in narrative reporting and appropriately considered and disclosed in the financial statements, particularly where investors may reasonably expect a significant effect on the expected life or fair value of an asset or liability.
- The nature and extent of material risks arising from financial instruments and related risk management are adequately addressed, including:
  - the use of factoring and reverse factoring in working capital financing
  - the approach to, and significant assumptions made in, the measurement of expected credit losses
  - concentrations of risks and information about covenants (where material).
- Alternative performance measures not to be given greater prominence or authority than amounts stemming from the financial statements, and the basis for classifying amounts as adjusting, 'non-underlying' or 'non-core' explained.

Corporate governance

There are signs that the FRC is already taking a more proactive stance on the quality of governance reporting, even before the implementation of corporate governance reform.

The FRC Corporate Reporting Review team ('CRRT') is now writing to companies about their governance reporting. It does not yet have statutory powers in this area so companies do not have to write back, but they are expected to take the points raised into account for the next annual report. The FRC is also writing separate letters when they have reviewed aspects of governance reporting as part of thematic reviews.

As well as building governance into their reviews of annual reports, the FRC is taking a more hard line approach in its governance-related publications such as '**Improving the quality of 'comply or explain' reporting**' [February 2021]. In this, the FRC makes it clear that, under the 2018 Code, companies are expected to have more departures than before but that it appears not all of these are being identified. The FRC is also continuing its drive to improve the quality of explanations under 'comply or explain'.

In November 2021, the FRC published its **Annual Review of Corporate Governance**. In addition to the points above some of the main themes arising from this review are:

1. Governance reporting still needs to focus more on outcomes and impacts than process and procedure.
2. The pandemic drove increased stakeholder engagement reporting. However, there is a desire for this to be maintained, and the FRC would like to see better disclosure in annual reports around modern slavery.

3. There is a new focus on the activities of the nomination committee. The nomination committee is responsible for succession planning, diversity, Board appointments and evaluation but the reports of the committee are often relatively brief and uninformative.
4. Reporting on risk management and internal control needs to improve under the existing Code and Guidance, even before any revisions following the BEIS **Restoring trust** consultation. The FRC would like to see more insight being given into the processes, monitoring and review of the systems' effectiveness.

The next session was based around the continued focus on ESG and climate change.

Climate-related disclosures

There is increasing scrutiny on how companies are responding to climate change, particularly from the investor community. Through a PwC survey of the investor community with over 325 investors around the world, 79% of investors are now factoring ESG information into their decision making. This increased pressure can also be seen through a number of investor groups who are taking action against companies who are not responding quickly enough to climate change. Companies are, as a result, responding to this pressure.

In addition to this, there is also increased pressure from the regulator around reporting requirements. At the moment, the requirements for this reporting cycle have not changed. Companies are currently required to report against:

- Streamlined Energy and Carbon Reporting (SECR) – large companies and LLPs
- Taskforce on climate-related financial disclosures (TCFD) – Premium-listed companies

Industry-specific requirements and recommendations include:

- TCFD – pension trustees
- Managing climate-related financial risk (SS3/19, PRA Dear CEO letter) – banks and insurers.

Looking ahead there will be further requirements for companies:

- expanded scope of TCFD reporting requirements (Regulations and FCA proposals) – finalised January 2022
- sustainability disclosure requirements
- adoption of International Sustainability Standards
- UK Green Taxonomy
- mandatory publication of transition plans to net zero.

ESG has become a real growth area for companies' reporting. Through our analysis of the FTSE 350, we have found:

- 21% of strategic reports on average are represented by ESG sections
- 56% of companies had a principal or emerging risk on climate change
- 50% of companies reported on TCFD
- 63% of companies made some form of carbon reduction commitment.

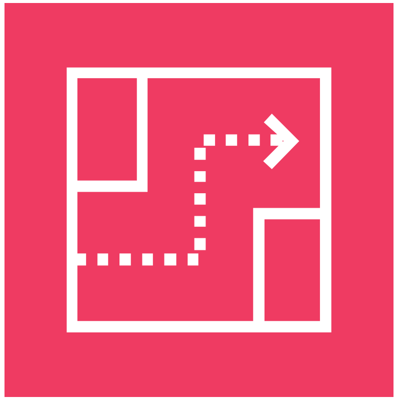
Nonetheless, the quality of this reporting is still to be improved:

- 30% of companies integrated ESG into their core business strategy
- 23% mentioned climate change in the financial statements
- 6% of companies who made a carbon reduction commitment referred to it in the financial statements.

Based on our review of the FTSE 350 and a number of early drafts of TCFD disclosures, we have identified a number of recurring themes or tips to be considered as climate change disclosures are prepared for this upcoming reporting season. These echo sentiments and expectations voiced by investors, the TCFD in their latest status update, and the FRC in their latest lab report on developing TCFD reporting practices.

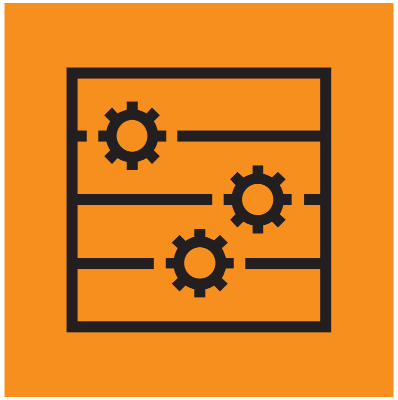
Potential impact

Specificity on the impact (financial or otherwise) of climate-related risks and opportunities on business model and strategy.



Climate-related transition plans

Set out transition strategies with clear milestones, explanations of how progress will be monitored, what is involved, and ultimately what is the cost.



Timeframe

Insight into prioritisation, likelihood and impact, and the timeframes over which risks and opportunities might crystallise.

Transparency and consistency

Be clear on what terms mean, how they are applicable to your company and ensure consistency between the front and back half and across mediums.

Balance

Ensure the right balance is struck between commitments/ statements, progress against targets and where the company is on its journey.

There are some helpful practice guides available to provide support on climate disclosures:

- FRC financial reporting lab report: TCFD developing practice
- WBCSD Reporting matters 2021 report
- PwC Excellence in climate change reporting: A review of leading UK companies

We have also produced an Audit Committee climate reporting **checklist** around questions

Capturing sustainability demand

The systemic change around sustainability and ESG has impacted the whole market.

Historically, the market has been optimised for individuals' historic asks around what is important to them, for example:

- Investors: Financial return appropriate for risk taken
- Consumer: Best price for quality required
- Employees: Best financial rewards
- Citizens: Growth and safety.

However, a shift in user requirements means there is less clarity around the market demand:

- Investors: Financial return appropriate for risk taken whilst protecting society and environment
- Consumer: Best price for quality required whilst factoring in the impact
- Employees: Organisational purpose and impact with appropriate financial reward
- Citizens: Growth and safety, including protection of the environment and society.

With the market no longer being optimised, the demand signals for sustainability alignment are weak. The definition of sustainability is nebulous and so a coherent market response will not occur, with anything which misses this critical element of creating a strong demand signal destined to be ineffective in driving real change.

In addition, looking across the market, the full supply chain is not transparent in terms of impact. As investors and consumers, it is difficult to access and understand the data and history behind certain products. Moreover, sustainability reports are often interpreted differently by data and research houses and there are no standards to compare to. We believe that this creates significant risks for those charged with governance, as sustainability information is increasingly price sensitive, yet is not fully controlled by the organisation.

We are currently supporting an organisation called rewired.earth on an initiative to bring together the data, the investor and consumer needs, using the United Nations Sustainable Development Goals to create a consistent framework looking at both supply chain and demand.

Encouraging change across companies to use a consistent approach to ESG reporting and goals will help drive systemic improvements across global supply chains and help realise more clarity on investor and consumer market demand. This creates a business case for sustainable action, where companies understand the value available to them in terms of access to capital, custom and talent – and stakeholders can assess companies based on transparent and trustworthy reporting.

For more information, please visit **www.rewired.earth**.

Assessing the effectiveness and quality of the external audit

The next session focused on part of our 'Restoring trust' series – assessing the effectiveness and quality of the external audit. This is one of the potential areas coming out of the BEIS consultation, with additional scrutiny potentially being placed on Audit Committees to assess audit quality.

Update on the 'Restoring trust' agenda

BEIS consultation

We are currently awaiting the government's feedback statement following the consultation 'Restoring trust in audit and corporate governance'. The Department for Business, Energy and Industrial Strategy (BEIS) received a significant number of responses to the consultation and now plans to release a feedback statement which outlines the proposed reforms they intend to take forward through legislation.

Latest word on European reform

In November 2021, the European Commission published their version of the BEIS consultation on corporate governance, corporate reporting and audit reform. It covers many of the same themes as the UK's consultation – internal controls, competition in the market and powers of the regulator. This consultation is only 24 pages so is a lot more open-ended. It is worth keeping up to date with the developments of this reform, particularly if on a Board of an organisation which is UK based but with large European operations.

PwC's Restoring Trust Series

Through the duration of the BEIS consultation, we produced a number of materials on our **microsite** to help Audit Committees navigate through the proposals and their implications, such as FAQs, practical guides to preparing for the proposals and guides to the Resilience Statement and the Audit and Assurance Policy.

Assessing the effectiveness and quality of the external audit

FRC publication: 'What makes a good audit'

In November, the FRC released a publication which pulls together the different elements of an audit, outlines what makes a good audit and sets out best practice. The quality of the audit is first and foremost the responsibility of the auditor, but one area highlighted in the publication is that there is an emphasis on the important role of those charged with governance in contributing to a robust and comprehensive audit. This is not only because of the way NEDs govern the company, but also because of the way they challenge the auditors and management.

The 'What makes a good audit' paper is just one example of a very live discussion on audit quality – we also have:

- The BEIS Consultation on restoring trust in audit and corporate governance.
- AQI activities from the FRC
  - active engagement level AQI pilots
  - potential consultation in 2022 by FRC regarding firmwide AQIs.

Understanding and forming a view of whether a company is receiving an effective and high quality audit can be challenging. There is no one definition or measure of audit quality and different participants in the audit will have different perspectives. The most public and regularly cited measures of audit quality are the results of the FRC (AQR) audit file inspections. Audit firms also include some Audit Quality Indicators in their annual Transparency Reports.

Requirements for Audit Committees

Existing requirements

Existing requirements for Audit Committees are currently contained in the UK Corporate Governance Code 2018 and are primarily aimed at companies with a premium listing.

'The audit committee must review the effectiveness of the external audit......and explain [in the Annual Report] how they have assessed the independence and effectiveness of the external audit process.'

BEIS proposals

The BEIS proposals expand on this and include:

- a requirement for the Audit Committee to continuously monitor audit quality
- minimum standards for Audit Committees
- additional reporting to the regulator
- regulator monitoring compliance with standards.

The proposals are aimed at FTSE 350 Audit Committees but may extend to all public interest entities.

In our experience, although many Audit Committees have a good process for assessing the effectiveness of the external audit, it can often be quite a narrow approach.

The BEIS proposals, the increased focus by the regulator on Audit Quality Indicators and the recent 'What makes a good audit' paper from the FRC suggest a much broader, holistic approach is necessary. We want Audit Committees to think about their approach to assessing audit quality, and in particular those parts of the process that cannot be easily measured. Factors to consider include:

1 Who

Focus on the wider audit team.

Also consider those in the company with a key role to help facilitate audit quality.

2 When

Regularly consider audit quality throughout the audit process.

Consider a clear view as accounts signed.

3 What

Consider all aspects of the audit, not just planning/ reporting.

Consider inputs e.g. resourcing, project management,on-time delivery.

4 How

Canvass wide views of people interacting with the audit.

Ensure more robust documentation than today e.g. rationale for assessment.

5 Behaviours

Focus on the behaviours exhibited during the audit process.

A focus on behaviours

One of the most important aspects of audit quality, and one of the hardest to measure, is the behaviours associated with the audit. Examples of good behaviours that contribute to high audit quality include (but are not limited to):

1. **Auditor behaviours**
- a questioning mindset and genuine interest in the business and industry
- probing questions asked confidently (or with support)
- active knowledge sharing within the team
- senior team members being clearly present
- strong team working and collaboration
- 'air cover' for junior team members
- engagement team taking pride in their work.

2. **Management behaviours**
- timely delivery of high quality supporting information
- 'audit readiness'
- open to challenge and probing questions
- regular sharing of knowledge and insights.

3. **Audit Committee behaviours**
- interactions beyond the engagement leader
- setting the right tone for management
- providing 'air cover' for auditors to be empowered to challenge management.

Pensions reminders

The final update featured a reminder of pensions matters.

Pension Schemes Act (PSA) 2021

The Pension Schemes Act came into force in October 2021 and brought in a number of new requirements.

What has changed since 1 October 2021?

- Increased powers for the Pensions Regulator (TPR):
  - Expansion of TPR's investigative powers and circumstances where TPR can require payments to defined benefit schemes
- New criminal offences are applicable to directors, trustees and wider stakeholders:
  - Prison sentences of up to 7 years and/or unlimited fines.

Why is this important?

- 'Business as usual' type activity can be within the scope of the above:
  - This could include any activity that may impact on employers or guarantors to a defined benefit pension scheme, e.g. dividend payments, refinancing or restructuring
- If current or future corporate activity is planned, assess PSA 21 risk now:
  - Boards need to exercise additional governance in respect of pension considerations

A robust governance framework will be key to mitigate the risks involved.

Environmental, Social and Governance (ESG)

Climate change and ESG are taking centre stage for the vast majority of companies right now, and this has also extended to pensions. Pensions funds are currently sitting on £2 trillion of assets and this has been brought to the attention of the Government.

As part of the Pension Schemes Act, pension schemes need to demonstrate the scenario testing performed on the impacts of climate change. This already impacts pension funds of more than £5 billion and will affect those with over £1 billion in 2022. However, it is the responsibility of the pension fund rather than the employer to decide what the views, wishes and actions are. Nonetheless, employers should have a viewpoint to avoid trustees taking actions which might not necessarily be in line with the views of the employer and their climate change policy.

Update on market conditions

Over the last two years, the market has been volatile and this has impacted pension schemes. In terms of liabilities and the indices that drive their valuation for accounting purposes:

- After the spring 2020 spike in corporate bond yields, they hit new lows (c 1.3% pa) in December 2020 but recovered in 2021 and have increased significantly in early 2022 on the back of base rate increases (actual or expected).
- Since the first COVID-19 lockdown, long-term inflation expectations have steadily risen, partly driven by short-term inflation expectations.

We have generally seen accounting liabilities reduce in 2021 due to the rising corporate bond yields noted above.

As for bond and equity values:

- UK equities lost 35% of their value in spring 2020, taking until May 2021 to recover this, but they have continued to grow, boosting pension schemes' assets.
- Corporate bond returns have been more volatile than gilt returns, perhaps reflecting the economic uncertainty, with overall modest growth since the start of 2020.

During 2021, we have seen pension schemes' assets perform well. In combination with the reductions in liabilities, we have seen many 31 December reporters show substantial improvements in their net pension position.

The chart below shows PwC's observations of market practice on the key pension accounting assumptions at 30 September 2020 and 30 September 2021.

Assumption	Assumptions at 31 December 2021			Assumptions at 31 December 2020		
	Optimistic	**Median**	**Prudent**	**Optimistic**	**Median**	**Prudent**
Discount rate	2.0% pa	2.0% pa	1.9% pa	1.7% pa	1.6% pa	1.5% pa
RPI inflation	3.1% pa	3.4% pa	3.7% pa	2.8% pa	2.9% pa	3.1% pa
CPI inflation	2.4% pa	2.8% pa	3.2% pa	1.8% pa	2.1% pa	2.4% pa
Life expectancy – male @ 65	21 years	22 years	23 years	21 years	22 years	24 years

Our 31 December pensions accounting trends update is also available.

RPI reform

One of the most debated topics currently is setting an assumption around inflation for year ends. Companies should consider implications of RPI reform for their RPI and CPI inflation assumptions, including setting an inflation risk premium (IRP), and ensure assumptions remain appropriately market-based. The steeply downward-sloping nature of the RPI inflation curve at the end of 2021 has added additional complexity to these considerations.

COVID-19 mortality rates

The impact of COVID-19 on current and future mortality continues to be a matter of debate and discussion.

- Age is the biggest risk factor contributing to COVID-19 deaths.
- Defined benefit pension scheme members are at greater risk, mainly due to their higher age.
- But older members also tend to have lower liabilities:
  - PaC model estimates at least **0.2% liability reduction** for a 'typical pension scheme' (but we have seen larger estimates using actual data).
- Challenges in modelling mortality going forwards as current longevity (CMI) models do not handle shocks well.

For accounting purposes, it is important to provide evidence to support any assertions made.

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