

Has the elephant finally left the room?

It appears "Talking tech" is no longer taboo in the majority of US Boardrooms

Executive Summary

To try and summarise, this paper is one of two major studies that we have recently carried out in both the US as well as the UK (FTSE 100 and FTSE 250). In this paper, we focus on the results of the S&P 500.

The objective of our research in both studies was to gain a greater understanding of how digital and technology was being represented at Board level by some of the world's biggest, most influential companies.

The first cut was to break this down into one simple equation: companies **with** technology representation on the Board versus those **without**. We created four categories of technology leader: Corporate IT leader (CIO/CTO), GM/CEO of a technology firm (SI, Consulting, Software/Services), Digital leader (CDO/Ecom Director) and lastly business leaders with a technical (non-IT) background.

While understanding how these companies fared in appointing Technology leaders onto their Boards was part of our aim, importantly, we also wanted to understand if this had any bearing on financial performance. To get more insight on this, we also examined studies by a number of leading authorities including MIT, Harvard, McKinsey and Deloitte who have all published findings on this topic - all of which pointed to significant evidence that having technology representation at Board level was having a major impact on their competitiveness, whether that was revenue growth, margin point improvement or share price growth. (Links to all of the external research can be found in the bibliography section at the end of the paper).

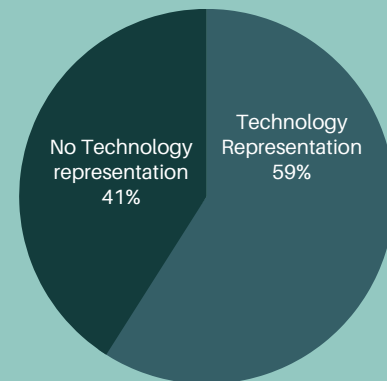
Four key questions consistently arose in the research:

- Do Boards understand the implications of digital and technology well enough to provide valuable guidance?
- Do Boards know if their digital transformation efforts are fundamentally changing how the business creates value?
- How does the Board know if the digital transformation is working?
- Does the Board have a clear view of emerging threats? (Especially in regard to cybersecurity)

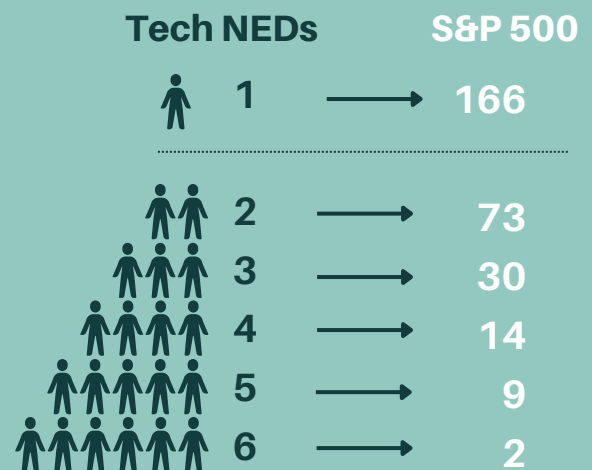
We researched which sectors were the most advanced (by the level of technology representation at Board level) and which sectors were catching up fastest. We looked at the trajectory of hiring over the last 5 years, examining the appointments across all 7 sectors over this period. We also researched the diversity make up of Board members with a Technology background versus those without.

The overall results are fascinating. What we can see is that compared to five years ago there has been tremendous improvement in the number of companies appointing NEDs with a technology background, but there is a long way to go if we are to continue to innovate.

S&P 500 Boards - split by those with/without Technology Representation

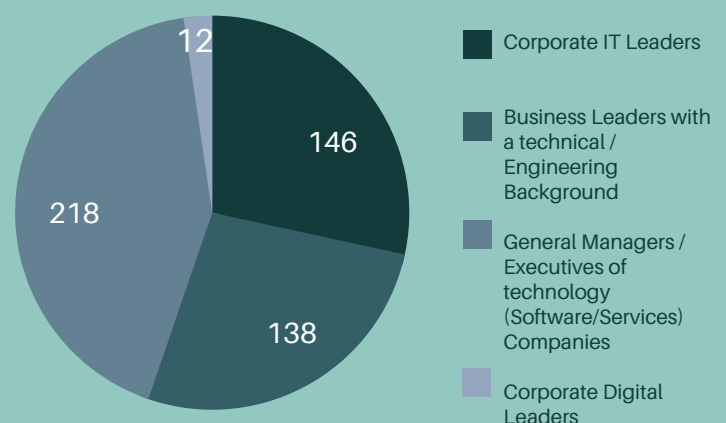


The number of companies in the S&P 500 with one or more Technology leader on their Board



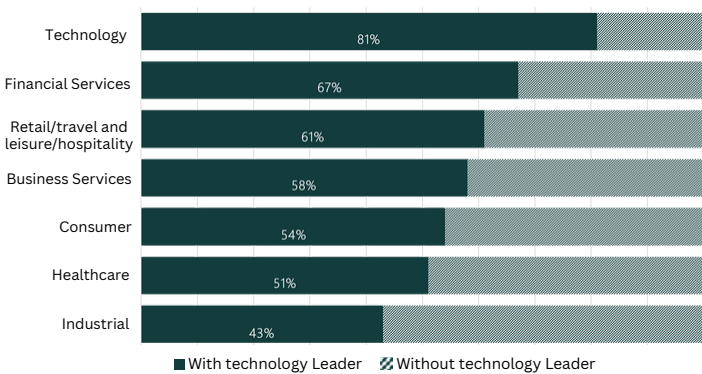
Note: 206 companies have no Tech NEDs

In total, there are 514 Technology leaders sitting on S&P 500 Boards

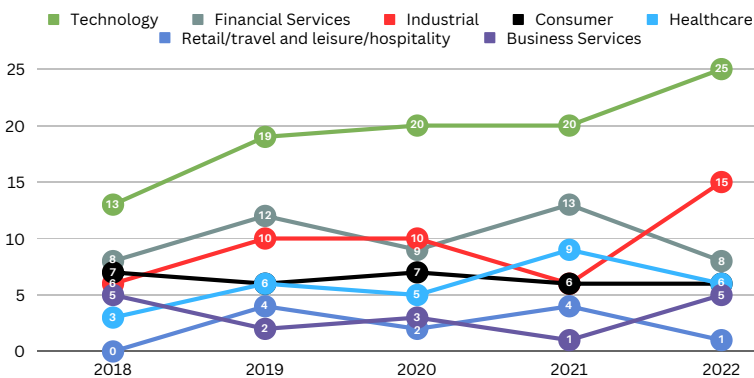


Executive Summary Cont.

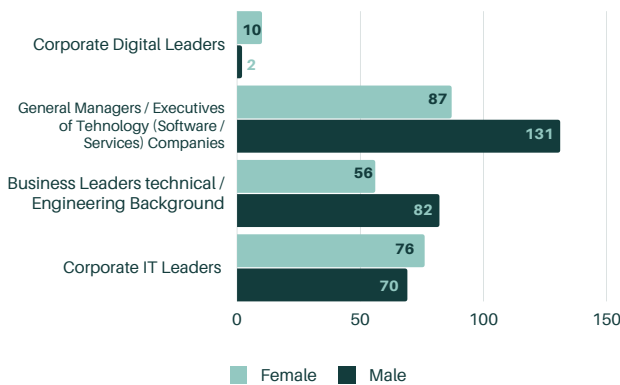
% of Companies with Technology Leaders on their Boards (by Sector)



Appointments made over the last 5 years (by Sector)



Number of Technology Leaders across the S&P 500 Boards by Gender



S&P 500 Boards With a Recognised Cyber Expert



Some surprising results came out of the sector breakdown.

Perhaps the biggest surprise was that Healthcare had the second lowest representation across all industry sectors. Surprising, given the digital, data and technology advancements in areas such as Medtech and Digital Pharmacy.

The other big surprise was that we were expecting to see far more Boards appoint or nominate someone responsible for Cyber. New SEC regulations in 2023 require Boards to disclose how the board is informed about cyber risks and whether/ how cyber is viewed as a part of the board's business strategy, risk management and financial oversight. Boards need to say who is responsible for oversight of cybersecurity- whether this is a specific board member, a board committee, or the entire board collectively. Currently only 20% of Boards signpost the cybersecurity expertise of at least one of their board members.

CONCLUSION:

While the article offers some great insights into the levels of Technology Representation on US Boards, the purpose of the paper is really to focus on the advantages of hiring a Technology Leader. We offer evidence of how this helps connect the Board with the Executive team on digital transformation; probing to see if the organisation has the right capabilities, culture, and infrastructure to succeed.

If you were only to read this far, below are six compelling arguments outlining why we think you should consider hiring a Technology Leader onto your Board.

1 Technology Leadership on Boards = improved revenue and share price growth

2 Tech-savvy Boards can help probe the executive committee to see if Digital Transformation is actually working

3 Appointing a technology leader onto the Board signals that Digital and Data is at the heart of the Board agenda

4 Tech-savvy Boards help build a Digital Mindset

5 Appointing technology savvy NEDs actually improves D&I in the Boardroom

6 Having Technology representation gives the board a clearer view of emerging threats

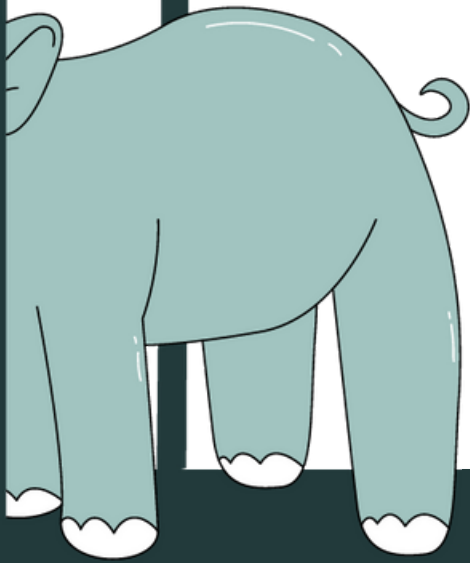


Table of Contents

- Do Boards reflect the reality of their company's digital ambition?
- The backstory
- Where are we today/ How did we get here?
- Technology representation on Boards (by sector)
- The Six advantages of appointing a technology leader onto your Board
- Bringing balance to the argument
- Closing Thoughts

Addenda

1. US v UK: 10 key comparisons
2. References/Bibliography

Do Boards really reflect the reality of their company's digital ambition

Let's start with an undeniable fact: there is not a single company on the planet currently planning their growth strategy without giving serious consideration to the technology, digital and data & analytics capabilities available to them to help accelerate that plan. In fact, I would go further, I'd say it was beyond comprehension to think that digital and driving greater data insights is not at the very core of most companies' growth strategies. Yet, despite all of this, it's striking how few Boards are made up of people with a deep technology or digital background to steer them through the complex road ahead.

In a recent article from McKinsey, they wrote "An inconvenient truth for businesses undertaking digital transformations is that without focused and active CEO commitment, there is almost no chance of success. That's because a digital transformation is a business-model reinvention that requires different functions across the organization to work together in new ways and can happen only through large-scale investments in building an entirely new set of capabilities. The only person who can make that level of sustained change happen is the CEO." While I would wholeheartedly agree with this, why stop at the CEO? Shouldn't Boards also have oversight capabilities and experience to help steward this?

Within the current landscape of geopolitical instability, it is critical for Boards to be agile, data-driven, digitally enabled and technology-literate. Change has occurred further down the business, but if, as the old saying goes, 'the fish rots from the head', surely it also leads from the head of the organisation, the question then becomes: "is sufficient change currently happening at the Board level to cope with the broader exposure to the tailwinds of digital technology and digital in general?" Differentiating through digital technology requires having the right capabilities, culture, and infrastructure. Where better to start than the very top of the organisation?

Let's be clear, using digital technology to innovate products, services, and business models is now seen as critical. In some cases this even involves getting software into the core of their business model / go-to-market approach. In other situations, it means building new digital platforms inside the confines of traditional legacy corporations, as you have seen in some industries (offering a digital version of itself). As technology and digital become increasingly important enablers for business-model innovation and productivity improvement, companies that are focusing more of their capital investment on technology and digital assets are outperforming their competitors, surely the people at the very top of the organisation should reflect this?

More strategically and further out, differentiation may require looking beyond the boundaries of the organization, to digitally enabled ecosystems with interconnected services that fulfil a variety of users' cross-sectoral needs in one integrated experience. Leveraging the public cloud and accessing large-scale data sets is accelerating productivity in many industries.

Yet, why do so many Boards lack technology or Digital knowledge?



No company on the planet is planning their growth strategy without giving serious consideration to the digital capabilities available to them.



There is now extensive evidence that companies with digital and technology representation at the Board level are outperforming their peers.

The backstory...

14 years ago, and at the height of the global financial crisis, I was in a meeting as part of the "extended Board practice" at Heidrick & Struggles, sitting amongst some of the smartest/most experienced minds in the UK debating what had gone so wrong with Board governance that allowed this crisis to happen, and what changes were required to avoid this happening again. While I understood it was important that we had a POV on this at the time, I wondered if we were not being a bit lazy by joining the crowds of other firms looking retrospectively and appearing clever for pointing these out "after the fact". I decided to ask a different question: "Why don't we spend a bit less time looking backwards and focus more of our attention on what might be at the heart of the next crisis, and what we, as a firm, can do to help avoid it?"

My thesis back then was simple: Boards clearly didn't understand the complexity of the financial instruments that ultimately led to this crisis that brought the financial world to its knees. If we used the same argument looking forward, they certainly didn't understand the sheer force and importance that digital was going to have on their business's future competitiveness. I simply asked, "Why don't we get on the front foot of this by forming a "Digital Board" practice and use our influence to help change this?" My argument was relatively straight forward: "Building up the Board's digital aptitude wasn't about turning their directors into proficient technologists; rather, the goal was for the Board to understand the implications of technology and digital on the business and sources of revenue." When thoughtfully applied, I argued that technology could enable a huge leap over standard approaches in terms of delivery speeds, costs, and quality - maybe even by a factor of 10. This would allow companies to test new markets, products, and business models at much greater speeds and at lower costs.

I did have the advantage of heading up the Chief Information Officers practice, spending a lot of time with people who understood these arguments. However, most people in that meeting looked at me as if I was mad. With one exception! The head of the Board practice at the time saw it differently, he was interested but saw this as marketing material, not a practice and not something the Boards of our clients would have much interest in. In hindsight, he was both right and wrong. Right in that he predicted Boards had little appetite for this (threat/lack of interest/self-preservation/other), but (in my opinion) he was wrong not to leverage the power of a brand as important as H&S to help bring Digital competence in the Boardroom. Had we have done that back in 2010, Digital transformation could have easily turned out differently.

Cutting a long story short, I decided to leave H&S with a single mission: start a company with the sole ambition of bringing greater awareness of the advantages of Technology and Digital into the boardroom. And, with that, The Digital Board was born.



Companies with "digitally-savvy" boards outperformed their competitors, with revenue growth of 30% or more. (MIT Study)



In 2023, perhaps the question shouldn't still be: "Do you have a technology or digital leader on your Board?" surely the question is, "Does your Board really understand digital?"



In spite of targeted technological advancements in the industry, only 38% of companies in the Healthcare sector have hired a technology leader NED in the last 5 years.

Where are we today?

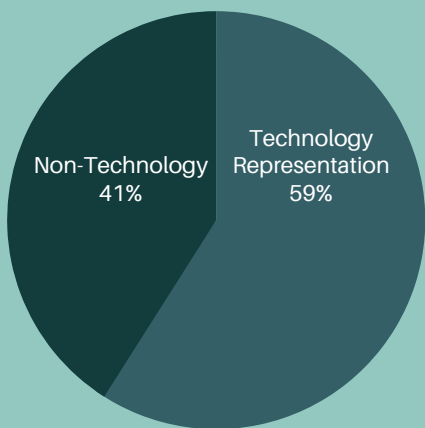
In 2021, an HBR article found that demand for digital or technology-oriented Board directors had more than doubled in the previous five years, whilst a Deloitte study highlighted that the percentage of public companies that had appointed technology-focused Board members grew from 10% to 17% from 2011-2017. Tellingly, this figure doubles to 32% for high performing companies (businesses that outperformed the S&P 500 index by 10% or more), demonstrating the substantial positive impact of NEDs with a technology background. This growth of technology representation in the Boardroom has been further accelerated because the COVID-19 pandemic has had a lasting impact on the technology landscape; according to further research, digital transformation increased by more than 10% over the period of COVID-19, consequently impacting Board composition (source: Deloitte). However, whilst this demand may have risen, there is still a lot of progress to be made, it's quite fascinating that over 40% of companies on the S&P 500 still don't have any NEDs with a Technology background on their Board.

We examined the Boards of all S&P 500 companies in order to understand what (if any) technical or digital capability they had on the Board. We decided to break those NEDs down into four categories:

- NEDs who were currently/previously Corporate IT leaders (CIOs/CTOs)
- NEDs who were currently/previously Digitals leaders (CDOs/Ecomm Directors)
- NEDs who were currently/previously Business leaders with a strong technical/engineering background (non-IT)
- NEDs who were currently/previously General managers/Executives of technology (software/services) companies

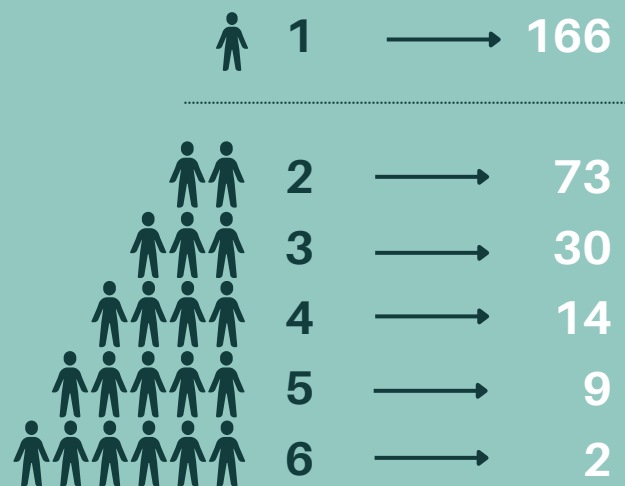
Our study revealed that **59% of the Boards at S&P 500 companies have technology representation.**
128 companies have multiple technology leaders on their Board- see illustration below:

S&P 500 Boards with/without technology Leaders



Tech NEDs

S&P 500 Co's



Note: 206 S&P 500 companies have no Tech NEDs

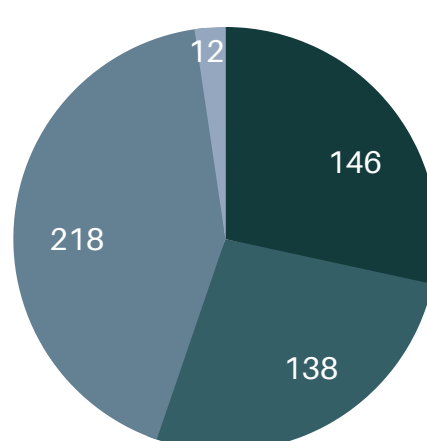
There are approximately 4,600 NEDs on the S&P 500

Breakdown of the different categories of Tech Leaders on S&P 500 Boards

Overall Tech Leaders **514**

Corporate IT Leaders (CIOs/CTOs) **146**

% of all NEDs within the S&P 500 have a Corporate IT background **3.2%**



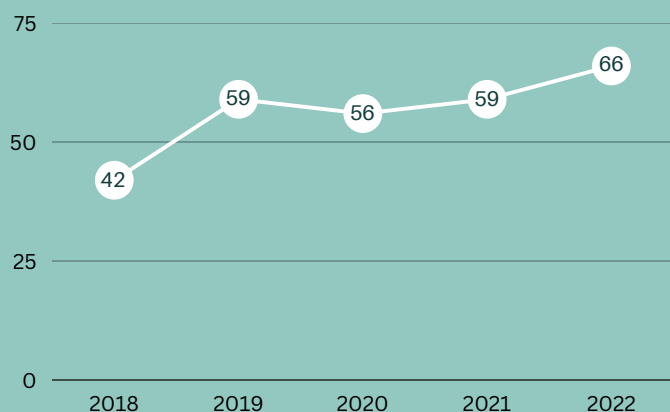
- Corporate IT Leaders (CIOs/CTOs)
- Business Leaders technical / Engineering Background
- General Managers / Executives of technology (Software/Services) Companies
- Corporate Digital Leaders

How did we get here?

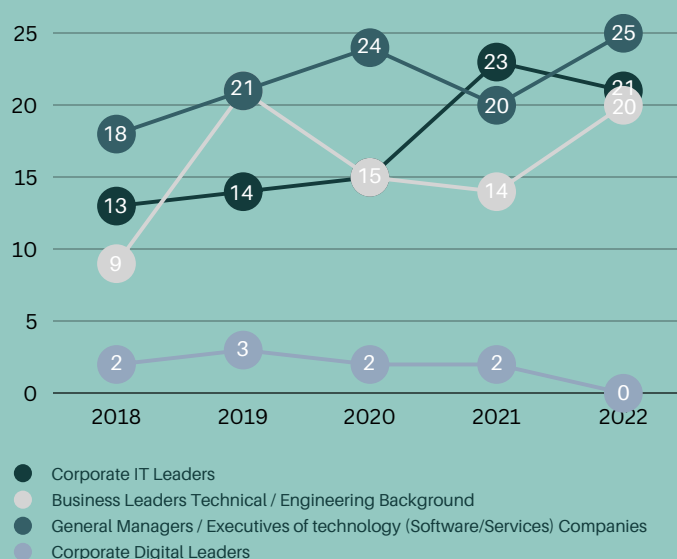
Let's take a look at the progress that has been made. In 2016, a McKinsey global survey argued that businesses which viewed and collaborated with IT as a strategic business partner performed better and enjoyed healthier cultures. Since then, this upwards trajectory has continued. Rather than viewing digital and technology as a mere delivery engine, most forward-thinking businesses began to recognise the importance of viewing it as a critical component of an operating model, which plays a crucial role within both the customer experience and the employee experience. By extension, companies have started to recognise the importance of having greater technology representation on the Board.

These graphs illustrate the number of technology leader NED appointments made to S&P 500 boards each year since 2018.

Overall Technology Appointments across the S&P 500 Boards over the last 5 years



Breakdown of Technology Appointments across the S&P 500 Boards over the last 5 years



The graphs above demonstrate our study's findings on when technology experts were appointed to Boards, it is clear that the trajectory of technology appointments on S&P 500 Boards is overall positive; however, the rate of increase has still not reached the levels of 2018-2019. Of the 395 new NEDs appointed to the S&P 500 in 2022, (source: Spencer Stuart) 17% (66) had technology backgrounds. The US is at the forefront of appointing tech-savvy NEDs when compared to other countries; within the UK for example, tech-savvy NEDs made up just 6% of Board appointments across the UK's top 350 public companies in 2022, the US' 17% is almost triple this. Although the US is clearly outperforming its international counterparts, 17% is still a very small percentage of the NEDs appointed in 2022, representing a massive missed opportunity.



The appointment of technology leaders onto the Board has been generally rising across the past 5 years, with the highest increase being from 2018 to 2019 (17).

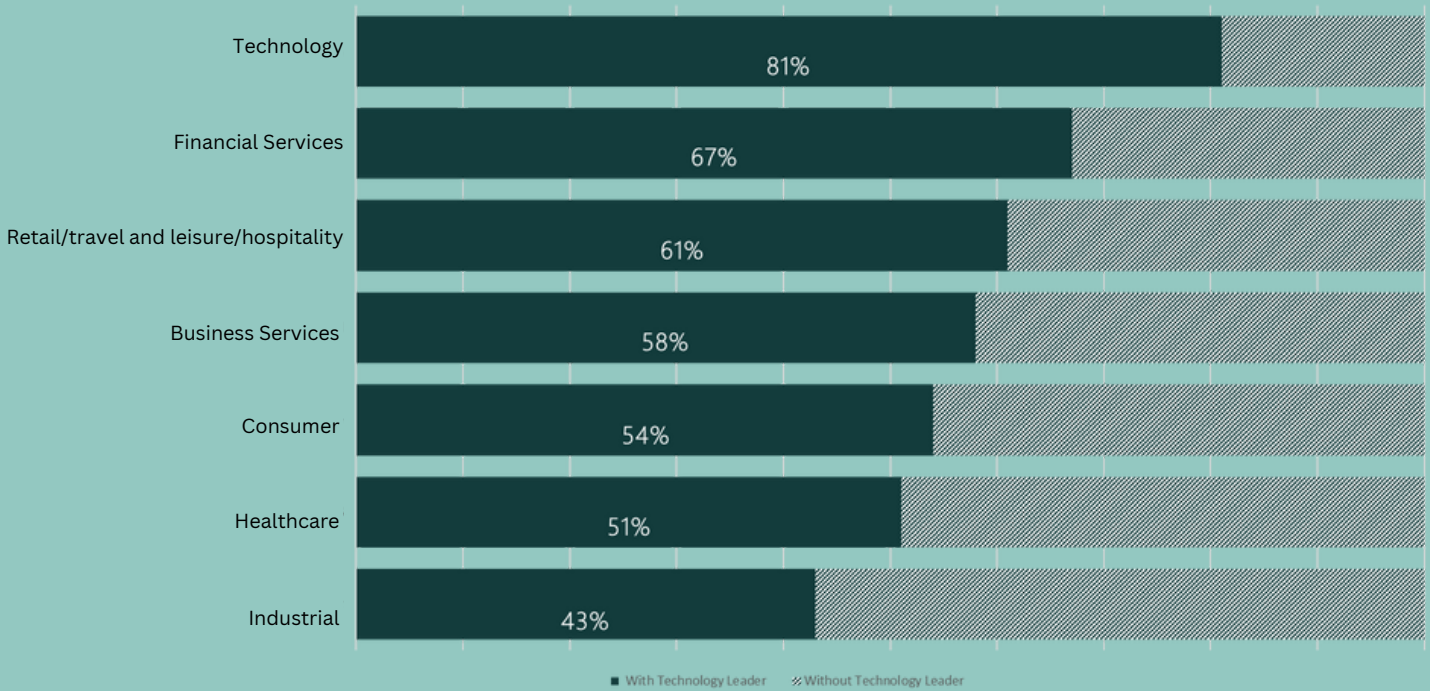


Over the past 5 years, GMs of technology companies (Software/IT Services/SIs) have been more in demand than Corporate IT Leaders (CIOs/CTOs), with the exception of 2021.

Technology representation on Boards (by sector)

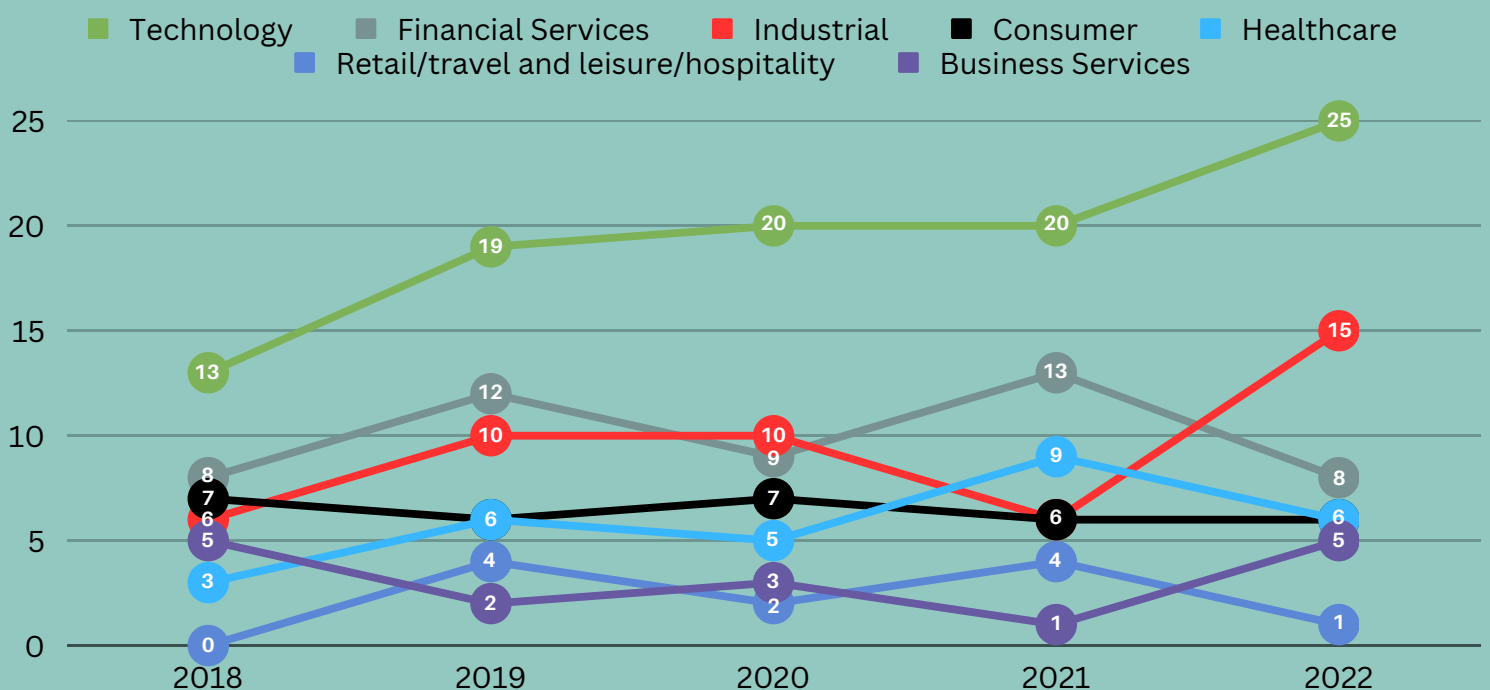
We split the S&P 500 across seven sectors. The chart below illustrates the percentage of Boards with at least one tech-savvy NED across each sector. Despite being the largest sector, we found that just 43% of the Boards within the Industrial sector had a tech-savvy NED. Unsurprisingly, the Technology sector leads the way with 81% of Boards having at least one tech-savvy NED, Financial Services follows with 67%.

% of S&P 500 Boards (by Sector) with Technology Leaders



Rate of hiring activity (by sector) over the last 5 years

Technology NED Appointments made over the last 5 years (by Sector)



Rate of hiring activity (by sector) over the last 5 years Cont.

Business Services

Consumer

Retail/travel and leisure/hospitality

Technology

Industrial

Healthcare

Financial Services

- The **Technology** sector (software, hardware, telecoms, broadcast/media, tech services, internet, semiconductor) has 96 companies on the S&P 500, the second highest number on the index. 67 of these companies (70%) have appointed technology leaders in the last 5 years, the highest percentage of any industry.
- The **Retail/Travel and Leisure/Hospitality** sector has 41 companies on the S&P, and only 11 of them (27%) have appointed a technology leader onto the Board in the last five years, the joint lowest percentage on the S&P 500.
- The **Industrial** sector (heavy manufacturing, mining, oil & gas, utilities, construction) has a similar outlook. There are 134 Industrial companies on the S&P 500, more than any other industry on the index. Only 36 companies (27%) have hired a technology leader NED in the last 5 years.
- The **Consumer** sector (consumer goods/services) has 54 companies on the S&P 500. 25 of these companies (46%) have hired technology leaders to their Board in the last 5 years.
- **Financial Services** sector has 84 companies on the S&P 500. 38 of them (45%) hired technology leaders to their Board in the last 5 years.
- The **Business Services** sector (logistics, packaging and other similar services) has 26 companies on the S&P 500. 11 of these companies (42%) have appointed technology leader NEDs in the last 5 years.
- The **Healthcare** sector has 65 companies on the S&P 500. 25 of these (38%) have appointed technology leaders to their Boards in the last 5 years.

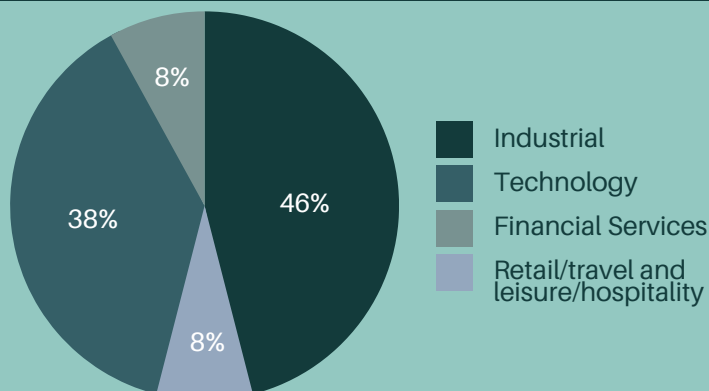
Companies in the Retail/travel and leisure/hospitality industries had the joint lowest percentage of appointments in the last five years. However, this group of sectors scores highly in terms of overall technology leader distribution, with 61% of companies having at least one on their board, meaning that the majority of tech-savvy NEDs on these boards were appointed prior to 2017. This suggests that these companies had their finger on the pulse and recognised the importance of digital & technology expertise early on.

Only 38% of Healthcare Boards appointed a technology leader in the last 5 years, making it the second lowest industry. This statistic is surprising given the (often consumer facing) digital and technological advancements being targeted in the industry, such as Medtech and Digital Pharmacy.

Looking at how 2023 has started

- The **Industrial** sector has appointed the most technology leader NEDs in 2023 so far with **6**
- The **technology** sector is just behind with **5**
- **Financial Services** and **Retail/travel and leisure/hospitality** sectors are tied with just **1** each
- Lagging behind the rest with **0** new technology leader NEDs appointed in 2023 so far are the **Consumer, Healthcare and Business Services** sectors

Despite being over a quarter of the way through 2023, the Healthcare, Business Services and Consumer sectors have made no new technology leader appointments so far this year.



*Omits sectors that are yet to make technology leader appointments in 2023



6

**advantages of appointing a
technology leader onto your
Board**



Companies with a tech-savvy Board member performed better than those that didn't, with an average of 5% greater revenue growth over 3 years. (Deloitte)

Below, we have outlined six advantages of appointing a technology leader onto your Board.

While this section is going to focus on the benefits of bringing in outside expertise to improve the digital competence at Board level, it's not without its detractors. There are many who still view digital representation on Boards as a risk rather than an opportunity. During periods of economic instability, the average age of Board members tends to rise, demonstrating how an attitude of playing it safe prevails. Boards are starting to realise that playing it safe is a risk in itself and that investing in digital, whilst still a risk, is more intuitive because of its potential benefits.

1. Improved revenue and share price growth

- A recent Deloitte study found that companies with a tech-savvy Board member performed better than those that didn't, with an average of 5% greater revenue growth over 3 years. Meanwhile, McKinsey research highlights that, in 2020 and 2021, companies with a Board technology committee had operating margins 100–600 basis points higher than their peers that did not have one. There are therefore clear fiscal benefits being enjoyed by those companies that have made a commitment to having technology representation on their Boards, so let's dive into why that is the case.
- A further study from Deloitte found that the gap in stock performance widened substantially during the pandemic, and companies with tech-savvy Boards experienced 26% better stock performance during the first nine months of 2020. This illustrates that technology expertise at the Board level can better prepare businesses to deal with disruption, particularly through digital and technology-enabled solutions, which many companies depended on at the height of the pandemic.
- In a recent podcast, MIT Professor Peter Weill discussed a study carried out with his colleagues in which they used machine learning to measure the 'digital-savviness' of each NED at all US listed companies with over \$1b revenue (over 3000 companies were studied). Only 24% were found to have digitally-savvy Boards, yet these companies outperformed their competitors, with 30% or more higher revenue growth, return on assets and market cap growth. Our own research found that 59% of S&P 500 companies have tech-savvy Boards, this percentage is higher than the 24% Weill found. As we looked at the 500 largest public organisations, it is clear that the higher performing the company, the more likely they are to have technology on their Board. Weill outlines three substantial opportunities that digital brings to an organisation:
 - Improvement of overall customer experience
 - Reduction of cost to serve customers
 - Reduction of friction in both customer experience and the experience of employees who serve those customers.

- Why stop at one?

- MIT's Peter Weill claims 'it takes three to tango', observing that companies with three tech-savvy NEDs perform significantly better than those with just one. Whilst it's a good step for Boards to hire one tech-savvy NED, in this instance three is not a crowd, having multiple technology NEDs prevents the isolation of digital ideas, allowing the Board fluency in its enterprise strategy. This is something S&P 500 Boards are beginning to adopt, with just over 25% of them having multiple tech-savvy NEDs on their Board.



2. Helps probe (and advise) both the executive committee as well as the technology function

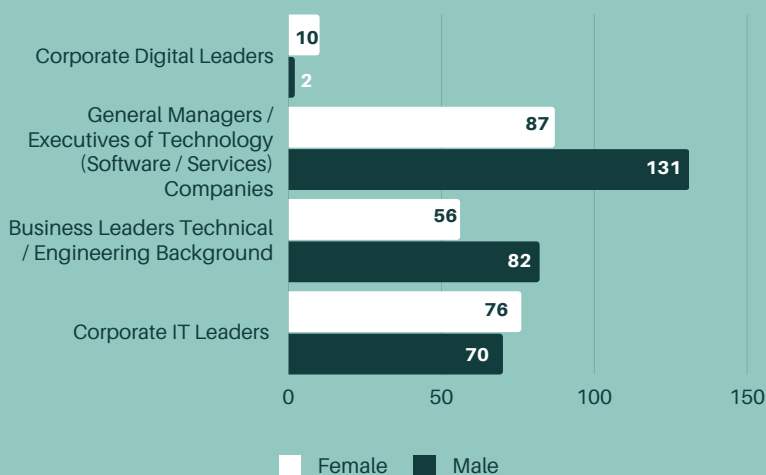
- How does the board know if the digital transformation is really working? Digital transformations are complex programs with multiple projects intersecting across the enterprise and wider eco-system. While this clearly shows an ambition to both compete and outperform competition, knowing whether your digital transformation is on track is a big challenge. Boards can start with a rigorous assessment of their strategy and road map to gain a common understanding of the business' digital strategy.
- To best leverage these opportunities, input and oversight from the very top of the company is necessary. Appointing a tech-savvy NED better equips the Board to reap these rewards, by providing effective guidance around digital and technology initiatives, and helping the Board to probe and advise the executive committee and technology department on these issues. Having this expertise on the Board can allow NEDs to ask crucial questions around the digital and IT initiatives undertaken by a business. It can help them to assess the job that the technology teams are doing and ultimately ensure that these projects are driving value for their end-users.
- Having technology representation on the Board also allows them a better understanding of how to efficiently formulate a technology spending budget. This knowledge can be useful in the event management teams approach Boards with an investment strategy for emerging technologies such as AI or machine learning. In these ever-increasing situations, Boards can use the technology knowledge they have to assess the plans put forward and determine whether it is the most suitable approach for the industry the organisation is in, and can consider if there are any cost-effective alternatives to the ones put forward.

3. Can actually improve D&I in the Boardroom

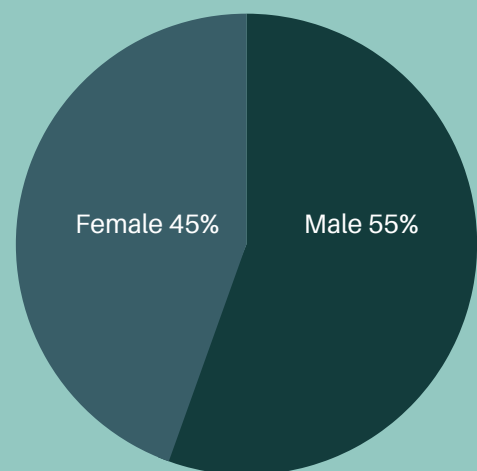
One of the biggest challenges of our generation is bringing greater diversity into the Boardroom. In August 2021, the SEC approved rules requiring NASDAQ-listed companies to have at least two diverse board members (at least one woman and one underrepresented minority) or explain why it does not. They are also required to disclose information on the voluntary self-identified gender, racial characteristics, and LGBTQ+ status of the company's Board. Whilst these rules do not affect all S&P 500 companies, they will likely contribute to a change in the makeup of all US Boards and could be extended by the SEC to cover the entire S&P 500.

These charts illustrate the gender divide of technology leaders on the Boards of S&P 500 companies.

Technology Leader Gender Split on S&P 500



Technology Leader Gender Split on S&P 500



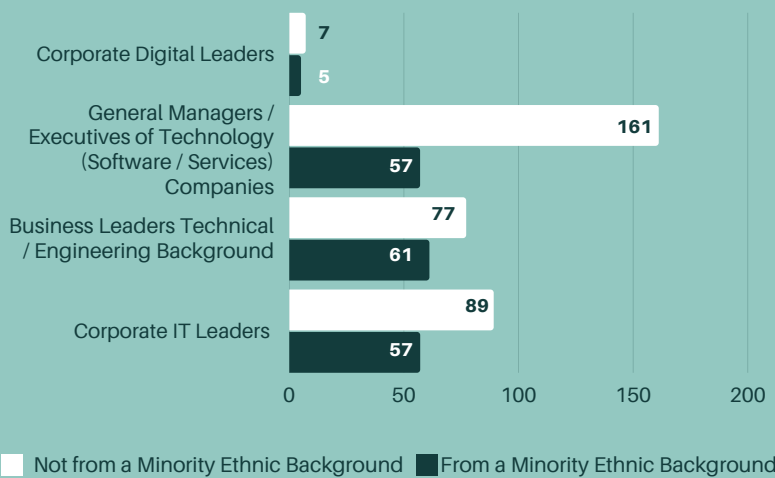
A somewhat unexpected revelation of our research is that there is a higher percentage of female NEDs with a corporate IT leader background than men; additionally, 35% of S&P 500 Boards had technology representation from a minority ethnic background. Although this is a smaller percentage than that of women, it is considerably more than the percentage of directors on the S&P 500 as a whole from minority ethnic backgrounds, which is 22% (source: 2022 Spencer Stuart Index). There is therefore a disproportionately high number of diverse Board members with a technology background. While the explanation for these numbers may not be obvious, they do imply that companies can look to tech-savvy individuals when addressing the critical need to improve both gender and ethnic diversity.



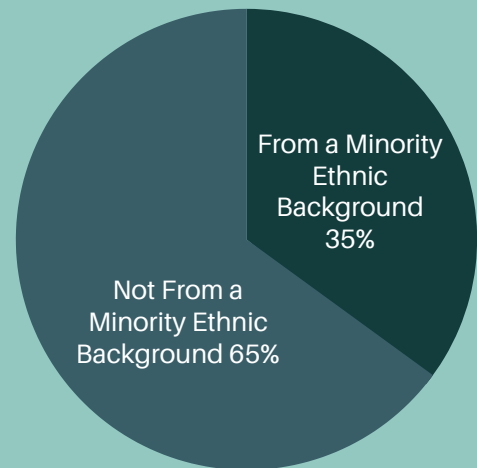
45% of NEDs with technology expertise are women, a much larger proportion than the 32% of all S&P 500 directors that are women.

These charts illustrate the number of technology leaders from a minority ethnic background on the Boards of S&P 500 companies.

S&P Boards with Technology Representation From a Minority Ethnic Background



S&P Boards with Technology Representation From a Minority Ethnic Background



4. Signals that Digital and Data is at the heart of the Board agenda

The role of a Board when it comes to digital also extends beyond purely governing initiatives. The MIT research identified three key roles of the Board when it comes to digital:

- Strategy (business model disruption & opportunities)
- Oversight of digital / technology projects (to ensure value)
- Defence- data privacy and regulations (typically a risk committee)

Of these, strategy was identified as by far the most important concern, to which they argue around 50% of the time should be spent. A robust digital strategy will bring the most long-term growth and revenue to the company and facilitate the overall transformation into a more digitally-enabled business. Digital discussion on Boards should increase from twice a year to 5 or 6 times, these discussions should also go beyond the risk of cybersecurity, and focus on the growth that effective digital strategy can provide.

Effective use of data is also becoming increasingly important in today's rapidly evolving landscape, with more options for consumers and greater challenges to retain loyalty. Board members may not be aware of the latest trends in data management such as Customer Data Platforms (CDPs), which can inform organisations about their customers, as well as Data Management Platforms (DMPs), which can educate organisations about the potential customers they should target. Implementing these digital systems is expensive; however, the ROI and subsequent growth it delivers make them important investments. This is just one example of how greater technology representation at the Board level allows an organisation to better leverage data and technology and make more informed decisions on the latest trends.

5. Helps build a Digital Mindset

In an era of constant change, an agile, resilient mindset and approach is necessary to succeed and keep up with the pace of disruption. As established in a recent WestMonroe article, the traditional model of quarterly Board meetings and reports isn't fit for the challenges of today, and a more digital mindset is required to rise up to the tests. Appointing a Board member with digital expertise will help to instill this kind of mindset from the top. The COVID-19 pandemic is the most recent and severe example of a global-scale event that has forced businesses to adapt to fundamental changes in ways of working and consumer behaviour.

The Boardroom itself is also experiencing its own digital transformation; corporate governance has changed significantly since the pandemic, with many Board meetings now taking place virtually. Boards have begun to adopt 'Board portal' software to organise their documents, meetings and to track objectives. Technology experts on Boards can harness these programmes and educate other Board members on how to effectively use them, thus improving the general function of the Board. This example shows that digital representation on Boards is an invaluable asset that not only provides benefits for the executive team, but for other Board members as well.

Board members that have doubts on the success and effectiveness of digital transformation can be offered an experiential education by either the technology leaders within their organisation, or if they have them, their digitally equipped Board colleagues.

6. Gives the board a clearer view of emerging threats

The startling numbers of security incidents in recent years have caused the SEC to take action, with regulations expected to come into force in the coming weeks. These regulations will require Boards to disclose information regarding the way in which (and how frequently) the Board is informed about cyber risks and whether/ how cyber is viewed as a part of the board's business strategy, risk management and financial oversight. Boards will also need to disclose information about who is responsible for oversight of cybersecurity- whether this is a specific Board member, a Board committee, or the entire Board collectively.

Our study examined the information that the S&P 500 Boards are currently making publicly available around the cyber-expertise of their directors and made a number of interesting observations:

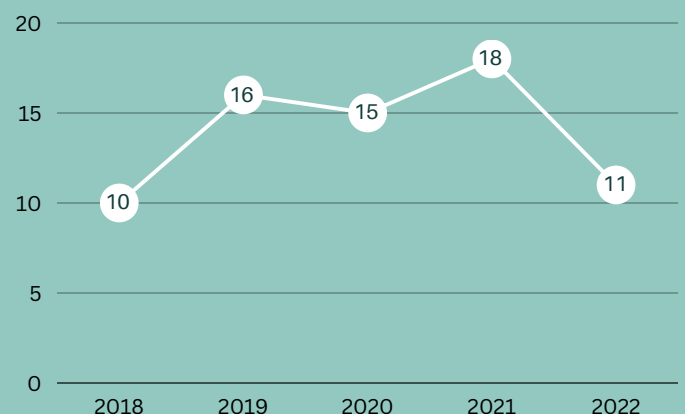
- Only 20% of Boards signpost the cybersecurity expertise of at least one of their board members.
- The rate of cyber experts being hired rose steadily between 2018 and 2021, but dropped substantially in 2022
- Of the 101 Boards that do signpost the cyber expertise of one or more of their directors, 43 did not have an expert with an obvious background in and around technology.

These charts illustrate the number of S&P 500 Boards with a cybersecurity expert and the breakdown of their appointments over the past 5 years.

S&P 500 Boards With a Recognised Cyber Expert



Breakdown of Cyber Appointments on S&P 500 Boards By Year



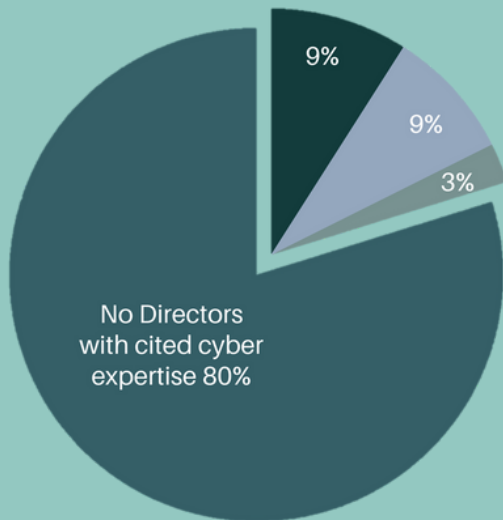


Despite the upcoming SEC regulation on cybersecurity, only 20% of Boards signpost the cybersecurity expertise of at least one of their Board members.

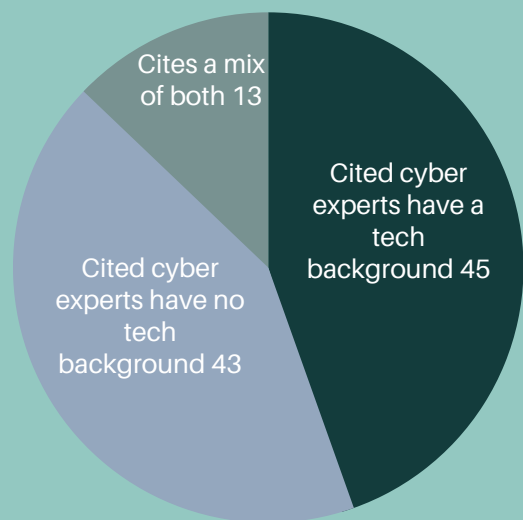
If we have properly understood the new SEC regulations, then the low percentage of Boards with a cybersecurity expert suggests that there may be a flurry of hires in the coming months as Boards seek to appoint a specialist who can be nominated as responsible for oversight. Alternatively, many boards may be intending to take collective responsibility for cyber oversight. The substantial drop off in cyber expert hires last year implies that this may well be the case, as the proposed regulations were first announced in March 2022, giving boards plenty of time to hire an expert during 2022. There are, however, signs to suggest that Boards are starting to increase their cyber awareness. There have been 5 cybersecurity appointments so far in 2023 across S&P 500 companies, meaning that nearly half the number of appointments made in 2022 have been made in just the first quarter of 2023.

This chart shows the split between S&P 500 Boards with one or more cyber expert that has no technology background and Boards with one or more cyber expert that does have a technology background.

Technology Background of Cybersecurity Experts on Boards



Breakdown of Cybersecurity Expertise



Of the 101 boards that cite having cyber expertise of one or more of their directors, a surprising observation was that 43 did not have an expert with an obvious background in and around technology. The majority of the cybersecurity experts without a technology background either had general security and defence experience from government and military roles, or had gained a specific qualification or certificate in cyber oversight.



Bringing balance to the argument:

Q. Do technology leaders really make good NEDs?

No article would be fair without some objectivity. Despite the clear benefits being argued in this paper of having a tech-savvy NED on a Board, there is still a perception gap to overcome. Fairly, or otherwise, Corporate IT leaders (CIOs/CTOs) are still perceived to lack the commercial acumen (as well as some of the broader leadership skills) to operate at this level.

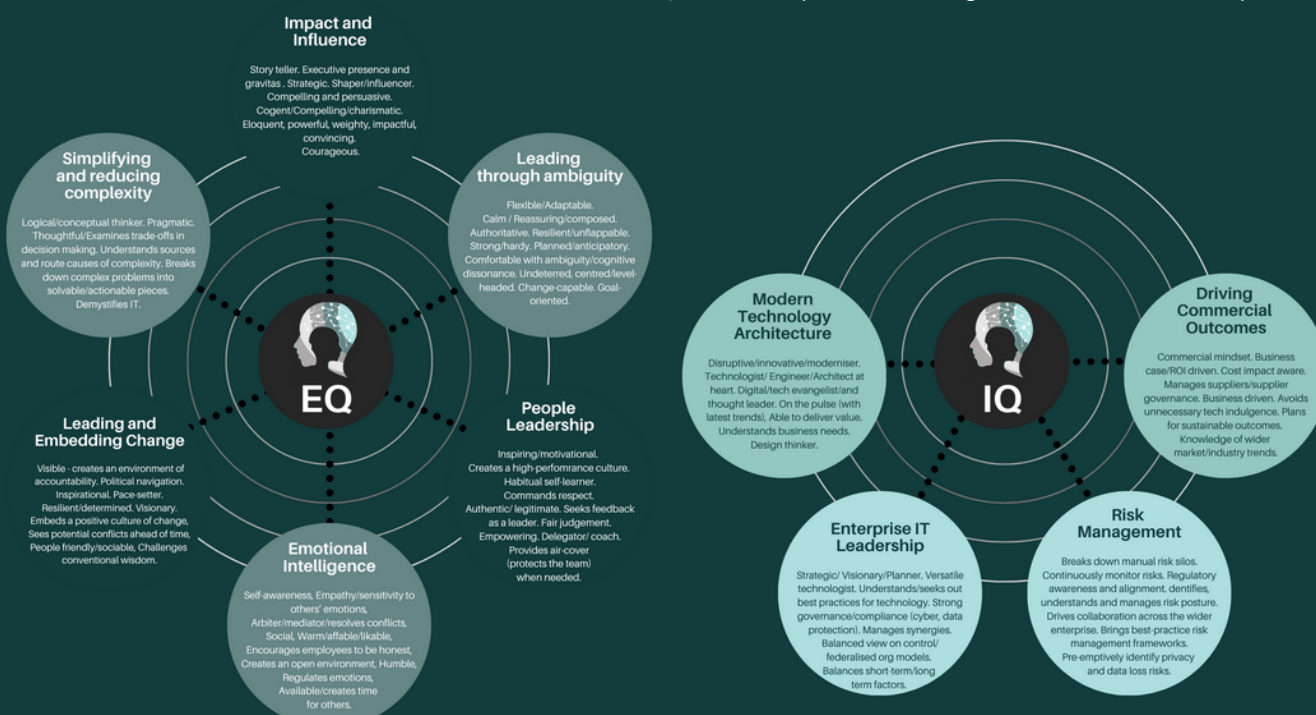
There are also other criticisms. There's a sense that their IQ still outweighs their EQ (problem solvers not appreciate inquirers) rushing for solutions without understanding the full business context; still too detail-oriented, often adding complexity rather than reducing it.

Perhaps they do have most of the required skills, but they lack the charisma and the people skills (EQ) to bring these arguments forward and strategically influence the Board.

Regardless of whether this is perception or reality, even the most impactful Global Technology leaders still need to hone their broader commercial and influencing skills if they are to make it onto a Board. At The Digital Board, we have interviewed over 7000 Global Technology leaders and have developed a framework (below) for what we consider the right balance of EQ/IQ skills and behaviours for successful leaders (see below).

To help strengthen your leadership skills, we have built a global leadership learning library with over 1000 curated pieces of learning content - all focused on helping technology leaders create more impact. These resources are made up of various media from: Articles, case studies, podcasts, videos, books/e-books as well as both online and classroom development courses.

See: <https://www.thedigital-board.com/leadership-resources>



And, are there really enough Technology Leaders who are "ready now?"

Another fair criticism would be that there is a lack of "ready-now" talent and that head-hunters are fishing in a small pool of talent: Our research has found that many companies consider there to be a lack of Board-ready leaders from a digital and technology background. Tech-savvy leaders with the desire to sit on a Board, should view the small array of talent in their area as an opportunity.

One approach Boards can consider is scanning the vast amount of technology leaders on advisory Boards; these will likely be technology leaders that through their time on advisory Boards have acquired many of the skills required to transition to an NED.

To stand out amongst the relatively small talent pool of technology leaders and to compete against others whose Board representation is lacking, the technology NEDs of the future should consider using the free "NEDTech Hub" from The Digital Board. Within it, we have assembled some insightful resources on topics including articles on the skills required to be an effective Board member and the advantages your digital prowess can bring to the Board.

See: <https://www.thedigital-board.com/nedtech-hub>

Closing Thoughts

Thank you for taking the time to read this article in full. If you got this far, then this is clearly a topic you are deeply passionate about. We would simply conclude by saying that there has clearly been a lot of positive change in this space over the last few years. The necessity of a digitally and technologically literate Board has started to be acknowledged, and those companies that have appointed tech-savvy NEDs have reaped visible rewards. However, the raw numbers of tech-savvy NEDs remain low.

For companies making new Board appointments, the considerable competitive advantages established by those companies that do have digital and technology representation on their Boards should be recognised.

For those technology leaders who want to make it to the Boardroom, the substantial opportunity that lies ahead should be encouraging; however, they should also consider the fact that many companies currently view the majority of technology leaders as lacking in Board-readiness, and think about the ways in which they can develop in this area and demonstrate their aptitude for the Boardroom.

Lastly, a big thank you to the team at The Digital Board (you know who you are) for the many hours spent researching and making sense of this data.

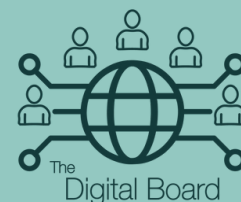
Bryan MacDonald
CEO/Founder
The Digital Board

About Bryan and The Digital Board

Bryan has dedicated over 25 years to understanding the role and leadership characteristics of successful technology executives. He founded The Digital Board in 2013, with a vision to change the way that business leaders and IT leaders cohabit in this changing world, connecting them through NED appointments, Advisory Boards, forums and other networking events.

Formerly the Regional Managing Partner (Europe) of Heidrick & Struggles Chief Information Officer practice, where he managed numerous high-profile assignments. Prior to Heidrick & Struggles, Bryan worked under the Chief Information Officer of BP Plc, helping to define a culture of leadership within their global technology function. This involved working with some of the world's most respected academic institutions, including Harvard, MIT and Kellogg.

Throughout his 25 years, Bryan has developed an impressive network of thought leaders, connectors and contacts all of whom have helped shape his understanding of the role and leadership characteristics of successful technology executives.



As an Executive Recruiter he has conducted over:

- 7000 CIO/Senior IT leader interviews
- 600 CEO and Exec team briefings

Founded in 2013, The Digital Board works with some of the world's most admired brands across several different disciplines.

- Board Advisory
- Executive search
- Leadership diagnostic and assessment

The team specialises in Senior Technology Recruiting and Assessment and has significant experience working across a wide spectrum of business sectors: Retail, Consumer Products, Financial Services, Life Sciences, Oil & Gas, Heavy manufacturing, Automotive, Defence, Mobile, and beyond.

You can find more information on The Digital Board at:
www.thedigital-board.com



Addendum:

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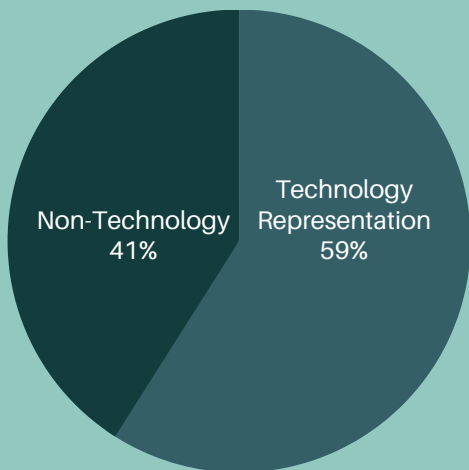
**Interesting comparisons between the
S&P 500 and the UK FTSE 100/FTSE 250**

The following pages compare the S&P 500 with the UK's leading public traded companies, across a number of categories:

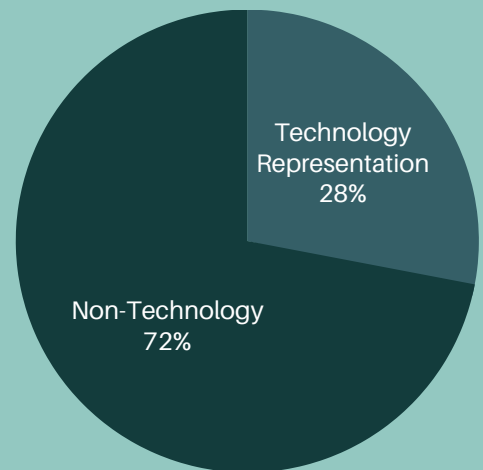
1. Percentage of those companies with/without Tech NEDs (US v UK)
2. Amount of companies with multiple Tech NEDs
3. Different categories of Tech NEDs representation by company (US v UK)
4. Technology NED appointments (from 2018 - 2023) US v UK
5. Individual Tech NEDs split by category
6. Technology (and Corporate IT) NEDs as a % of overall NEDs (US v UK)
7. Comparison of Digital Leaders (US v UK)
8. Sector breakdown (US v UK) - closer look into the biggest sector differences
9. D&I comparisons - Tech NEDs v Overall NEDs (US v UK)
10. Cyber expertise on Boards (US v UK)

1. % of companies with/without Tech NEDs (US v UK)

S&P 500 Boards with/without Technology Leaders

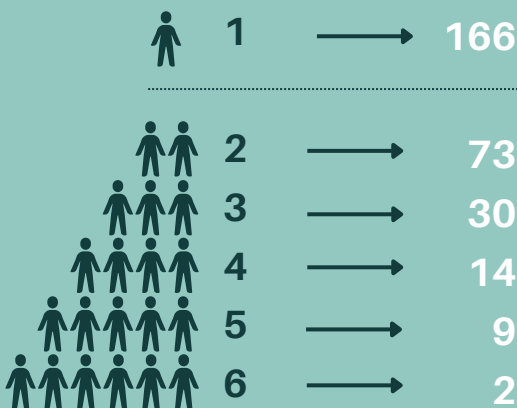


FTSE 100 & FTSE 250 Boards with/without Technology Leaders



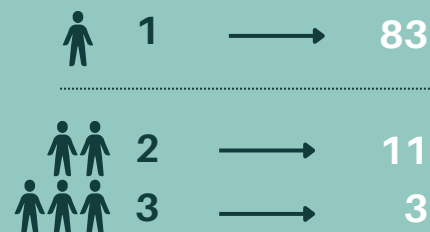
2. Number of companies with multiple Tech NEDs (US v UK)

Tech NEDs S&P 500



Note: 206 S&P 500 companies have no Tech NEDs

Tech NEDs FTSE 350

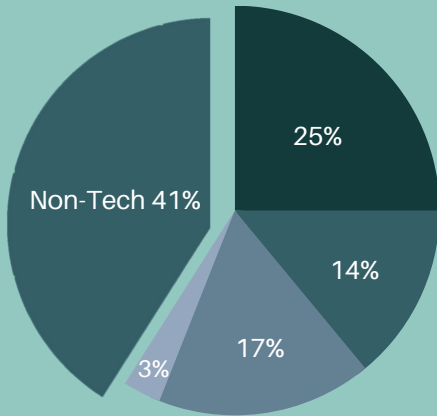


Note: 253 FTSE 350 companies have no Tech NEDs

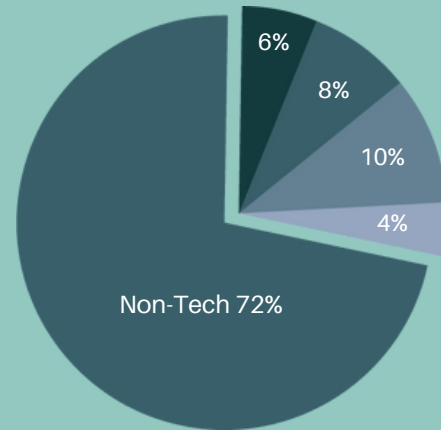
3.

Breakdown of Tech NEDs (US v UK)

Breakdown of S&P 500 with/without Technology Leaders on the Board

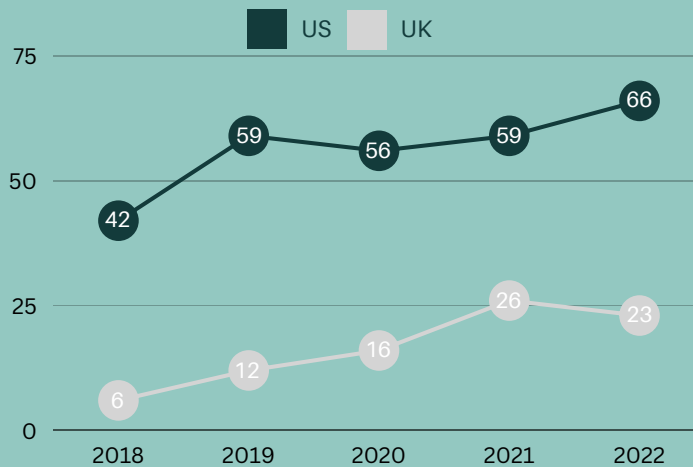


Breakdown of FTSE 100/FTSE 250 with/without Technology Leaders on the Board



4.

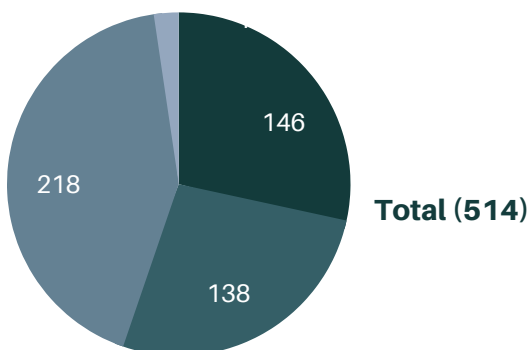
Tech NED appointments since 2018



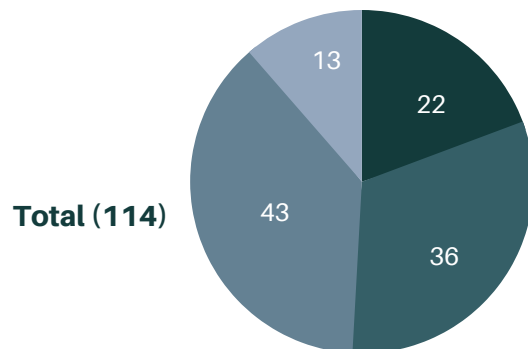
5.

Breakdown of the different categories of Tech NEDs (US v UK)

Breakdown of the different types of Technology Leaders on S&P 500 Boards



Breakdown of the different types of Technology Leaders on FTSE 100 and FTSE 250 Boards



6. Tech NEDs as a percentage of overall NEDs (US V UK)

There are approximately 4600 NEDs across the S&P 500, of these 11.2% are technology leaders (514).

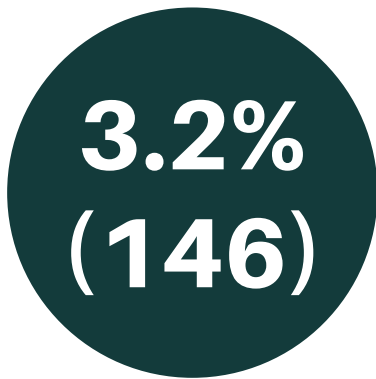


There are approximately 2800 NEDs across the FTSE 100 and 250, of these 4% are technology leaders (114).

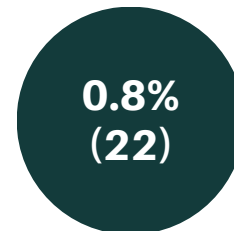


Corporate IT leaders as a percentage of overall NEDs

There are approximately 4600 NEDs across the S&P 500, of these 3.2% are corporate IT leaders (146).

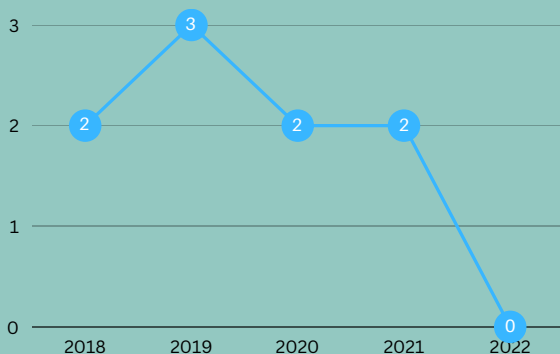


There are approximately 2800 NEDs across the FTSE 100 and 250, of these 0.8% are corporate IT leaders (22).

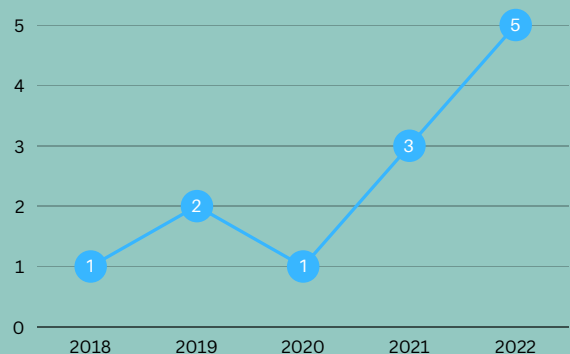


7. 2% of Tech NEDs on the S&P 500 are digital leaders (CDOs), compared to 11% on the FTSE 100 & FTSE 250

CDO Appointments across S&P 500 Boards over the last 5 years

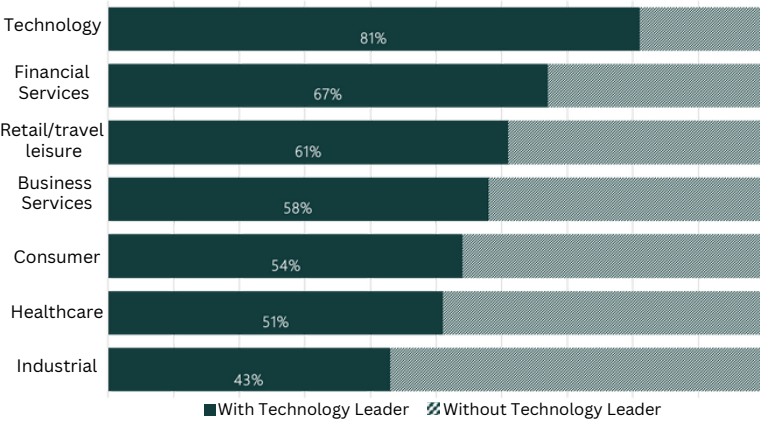


CDO Appointments across FTSE 100 and FTSE 250 Boards over the last 5 years

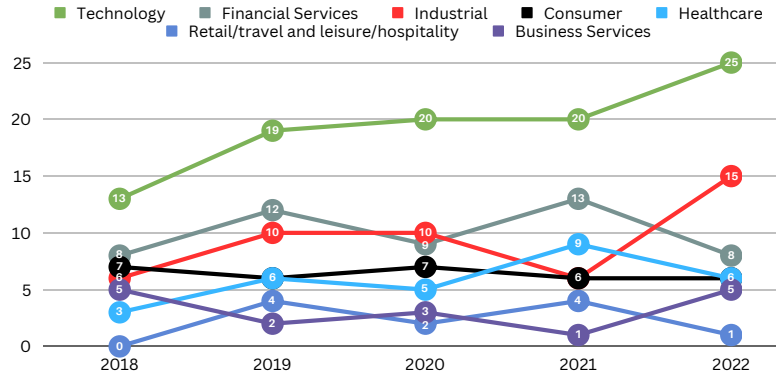


Breakdown of Tech NEDs by sector

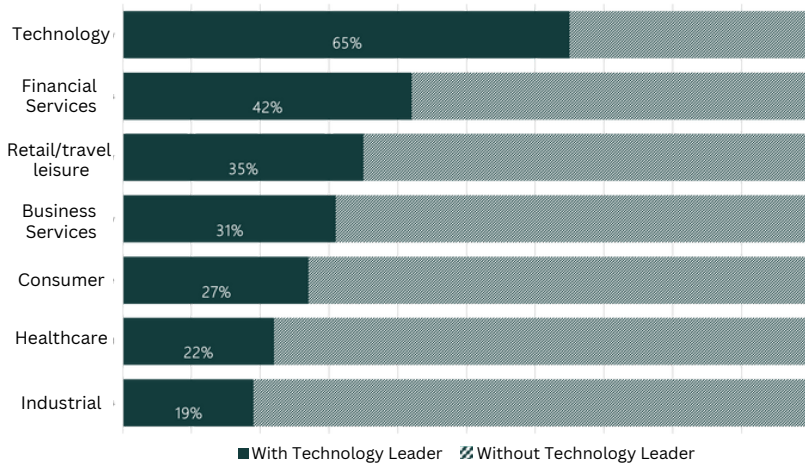
% of S&P 500 Boards (by Sector) with Tech NEDs



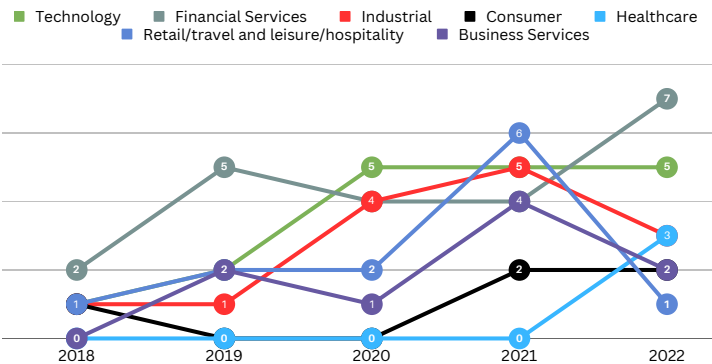
Tech NED Appointments made over the last 5 years on S&P 500 Boards (by Sector)



% of FTSE 100 and 250 Boards (by Sector) with Tech NEDs

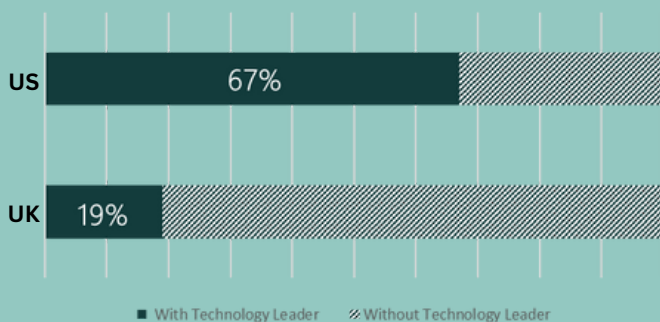


Tech NED Appointments made over the last 5 years on FTSE 100 and FTSE 250 Boards (by Sector)

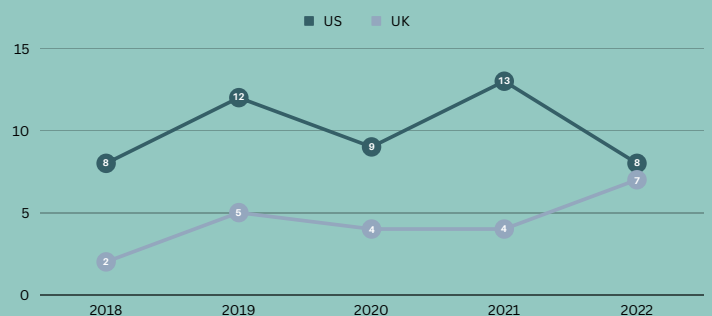


Financial Services (US v UK): An unexpected surprise

Financial Services Boards with Tech NEDs (S&P 500 and FTSE 100/FTSE 250)

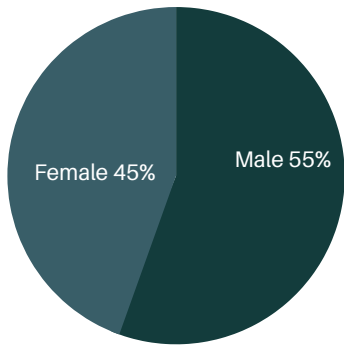


Financial Services Technology Leader Board Appointments Since 2018

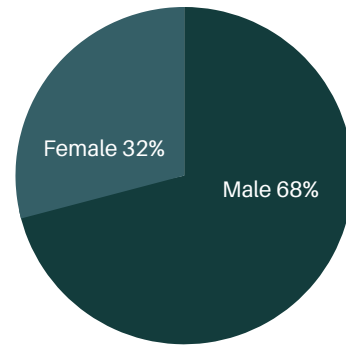


D&I - Tech NEDs v Overall NEDS (by Gender)

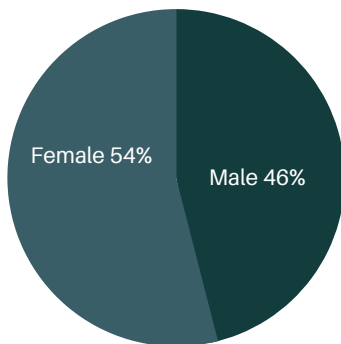
Tech NEDs (by gender) on S&P 500



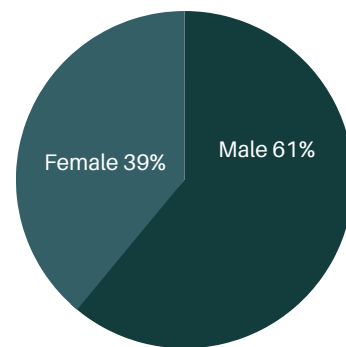
Across all S&P 500 Boards



Tech NEDs (by gender) across UK FTSE 100/FTSE 250

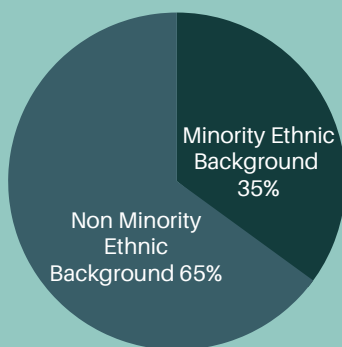


Across UK FTSE 100/FTSE 250

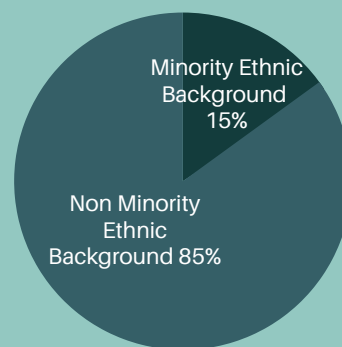


D&I - Tech NEDs v Overall NEDS (by ethnicity)

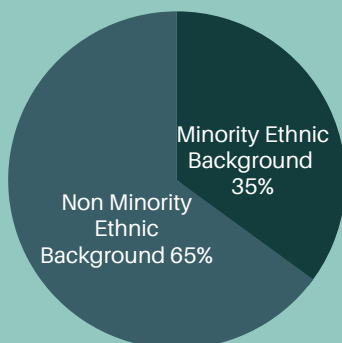
Tech NEDs (by ethnicity) on S&P 500



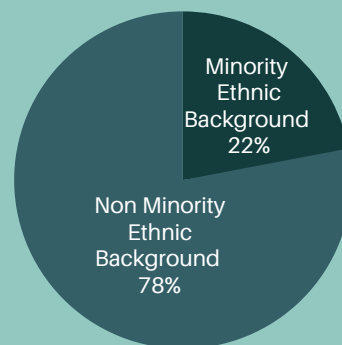
Across all S&P 500 Boards



Tech NEDs (by ethnicity) across UK FTSE 100/FTSE 250



Across UK FTSE 100/FTSE 250



*in the 150 largest UK plcs (Spencer Stuart)

S&P 500 Boards with a Recognised Cyber Expert



FTSE 100 and FTSE 250 Boards with a Recognised Cyber Expert




Addendum: Bibliography

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