

State of Development Landscape and Trends for 2024

09 Insight's from Deazy's 2024 CTO Survey



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72% of UK CTOs believe there is a lack of quality developers in the UK, caused by a number of factors beyond their control.

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CTOs' predictions for 2023 and 2024 highlight their evolving priorities: emphasising the need to future-proof organisations, manage complex tech environments, address data privacy issues from hybrid working and integrate AI.

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CTOs now view team augmentation as more than a quick solution to the digital skills-gap, recognising it as an opportunity for business growth.

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91% of CTOs recognise that the Head of People role is crucial for creating a people-centric, value-driven workplace.

A brief introduction from Andy

In a world marked by relentless technology transformation, Chief Technology Officers (CTOs) are at the forefront of driving innovation and ensuring that organisations stay ahead in a rapidly changing landscape. CTOs play a crucial role in strategising and implementing the adoption of new technologies. They are tasked with managing digital transformation efforts, and making informed decisions about digital investments.

Due to their unique position, these leaders have invaluable insight into emerging trends and their potential impact. It is their job to guide the development and execution of technology strategies and to drive business growth, while maintaining a competitive edge.

In this year's 'State of Development Landscape and Trends for 2024' whitepaper, we are excited to share insights directly from these industry leaders. In essence, CTOs are key drivers of technological advancement, positioning organisations to embrace the future and seize opportunities. That is why, understanding their viewpoint about current and future tech trends is invaluable to any business leader.



Andy Peddar
Co-founder & CEO



**I hope these findings will empower you
with new knowledge, enabling you to build
and drive your own business forward in our
ever changing, digital world.**

From addressing the pressing talent shortage to maintaining ceaseless vigilance against cybersecurity threats, from navigating the intricate balance between tech spending and its effectiveness to harnessing the transformative potential of AI, this eBook comprehensively explores the multifaceted challenges and opportunities that shape our industry.

As you delve into the pages of this eBook, we encourage you to reflect on your own experiences and challenges in the tech world. What resonates with you? What questions do these insights spark?

72% of UK CTOs believe there is a lack of quality developers in the UK.

01

Getting access to the best quality developers has always been a challenge for CTOs, regardless of their company size. However, the ever-present technology skills gap and developer shortage, is making this issue more pressing than ever.

When asked about the development market CTOs agree: there aren't enough top quality developers within the UK. Based on our survey findings, a resounding majority (72%) of CTOs agreed that candidates available are not up to the standards they require.

But why is this the case?

To get to the bottom of this issue, we asked CTOs to share what primary factors may contribute to this deficiency. CTOs pointed to a trio of underlying issues, all of which lay beyond their control:

Educational Bottleneck:

50%

of CTOs placed the blame on the UK education system, which they believe is falling short in producing high quality candidates. Arguably, the issue may partially come down to a misalignment between industry demands and the educational paths students take. This suggestion clearly fits into a wider narrative of the UK candidate market, underscoring the significant surplus of STEM-based job opportunities compared to the supply of STEM-based graduates.

[VIEW LINK →](#)

Tech's Breakneck Velocity:

50%

also cited the relentless pace of innovation as an equally substantial challenge. In a field where innovation occurs at breakneck speed, developers find it increasingly challenging to stay current. When looking back at the past few years of technological development, CTOs have had to take on board and consider: the metaverse, NFTs, crypto, blockchain, AI based text and image generation and so much more. Therefore, it is no wonder that CTOs and developers are left unable to stay ahead of the curve.

Diminished Appeal of the UK:

44%

expressed concerns about the declining allure of the United Kingdom as a destination for living and working. These findings are mirrored by a wider consensus shown in the International Institute for Management Development's annual 'World Talent Ranking' which showed the UK falling 7 places to number 35, on the list of most appealing countries for a foreign talent pool. Arguably factors such as the rising cost of living and Brexit have eroded the UK's appeal to professionals. This transformation in perception has direct implications on the recruitment and retention of top talent, and it poses challenges to the nation's status as a global tech hub.

Cyber security threats continue to keep CTOs up at night.

02

Our year-on-year survey findings around what is keeping CTOs up at night has shown that cyber security and data breaches continue to be the biggest concern.

In 2023, an impressive 52% of CTOs identified cybersecurity as their foremost worry, mirroring the exact figures from the preceding year, 2022. These results are unsurprising. In our increasingly digital world businesses are at huge risk of potential monetary damages and information loss caused by data breaches and security threats.

A sudden halting of businesses caused by a cyber security threat can have a huge impact on all areas of a business. One stat shows that in 2021, the average downtime from a ransomware attack was around 20 days (Statista,2021). The knock-on effects of a sudden business shutdown, include loss of revenue and overworked employees.



Cybersecurity breaches and data hacks can also significantly tarnish a company's image and, more critically, result in revenue losses and a reduction in the customer base.

Data Breach Fallout

One example which vividly illustrates the potentially devastating impact of cyber security threats involves the UK telecommunications company TalkTalk. They suffered huge backlash after acknowledging the unauthorised exposure of personal information for over 150,000 customers. Beyond the loss of £60m, the company witnessed a swift departure of over 100,000 customers and saw approximately a third of its total market value evaporate.

[VIEW LINK →](#)

The persistent threat of cyber security continues to dominate the minds of CTOs, perhaps rightfully so. In our increasingly digital world, where customers rely on businesses to keep their data and personal information secure, CTOs must continue to stay at the forefront of cyber security best practices.

Which, if any, of the following is most likely to keep you awake at night?

52%

Cybersecurity and data breach vulnerabilities

44%

A lack of IT resources to manage current projects

36%

Business not agile enough to maximise value from AI

33%

A lack of tech talent to work for us

27%

Making hybrid work whilst maintaining productivity



Managing In-house Capacity and IT Resources is a mounting challenge.

03

External security threats and talent shortages aren't the only concerns keeping CTOs awake at night.

Our research reveals a striking 33% year-on-year increase, in the number of CTOs losing sleep over their inability to secure the necessary IT resources to manage ongoing projects, from 2022.

In 2023, a staggering 44% of CTOs cited the challenge of managing in-house development capacity as a top concern.

But what sets 2023's survey results apart is the pivotal role this challenge plays in the successful execution of digital projects. It's not just a concern anymore; it has evolved into an obstacle. Our survey shows that 44% of CTOs believe 'the challenge of managing in-house development capacity' is the biggest roadblock for getting tech projects off the ground.

This finding casts a spotlight on a pivotal aspect of every organisation - resource management. As leaders across the board embark on their digital transformation journeys and strive to keep up with new innovation, the demand for skilled professionals and adequate development capacity has reached a critical juncture.

These issues are also further exacerbated by the digital skills gap experienced by businesses across every sector.

For CTOs, the path forward involves not only finding innovative ways to secure IT resources but also optimising their resource allocation strategies to address this growing challenge.



What is most likely to stop a technology project getting off the ground?

44%

The challenge of managing in-house development capacity

43%

Insufficient budget

42%

A lack of support from the board/executive team/ senior leaders

41%

Insufficient resources

31%

Initial enthusiasm gives way to waning interest



1/3 of CTOs are struggling to keep up with the rapid rise of AI.

04

Artificial Intelligence (AI) has taken the world by storm, and its impact is felt across every industry.

Whether you are deeply entrenched in the tech space or not, AI has become a ubiquitous topic of discussion and experimentation. Remarkable innovations, like DALL·E and Google's recent generative AI for search are revolutionising the realms of art and graphic design. Simultaneously, large language models such as ChatGPT and Meta's LLaMA are reshaping the future of screenwriting, social media content, and more.

[VIEW LINK →](#)

In this era of AI dominance, Chief Technology Officers (CTOs) find themselves at the forefront of a transformative wave. They are tasked with the intricate challenge of keeping pace with AI's rapid evolution. Yet, amidst this AI revolution, our research reveals that CTOs are grappling with a critical issue: the need to align swiftly with AI's rapid progress. Startlingly, one-third of CTOs admit to being troubled by their perceived inability to adapt quickly enough to AI's ever-accelerating pace.

What makes adapting to AI an urgent imperative?

A glance at the history of recent innovation reveals a recurring pattern: businesses failing to embrace new technology often struggle to keep up, and, in some cases, face the grim prospect of going out of business. A poignant illustration of this is Blockbuster, the once-mighty movie rental giant that faltered in the face of on-demand video services like Netflix.

A Cautionary Tale of Technological Obsolescence

A poignant illustration of the consequences of falling behind tech innovation is Blockbuster. The once-mighty movie rental giant faltered in the face of on-demand video services like Netflix. At its peak, Blockbuster boasted a workforce of 84,000 employees and a network of over 9,000 outlets. Yet, their failure to adapt to the shifting dynamics of their industry marked their inevitable decline.

Beyond the extreme consequences of business closure, CTOs have an opportunity to secure a significant competitive edge by viewing the rise of AI as a catalyst for progress. Research conducted by Hootsuite underscores these insights, revealing that 54% of organisations are already reaping the benefits of AI, enjoying tangible cost savings and operational efficiencies across their IT, business, and network processes.

Hence, CTOs must acknowledge that AI harbours the potential to enhance decision-making, elevate customer experiences, and bolster market competitiveness. To successfully navigate this challenge, they must invest in AI education, nurture an innovative organisational culture, and remain vigilant to the latest AI trends.

CTOs are struggling to find the balance between increased tech spending & effectiveness

05

Optimising spending and budget allocation is the next big challenge for CTOs, as they receive increased funding across the board.

Unveiling the Tech Spending Surge

Our findings reveal a compelling trend within the CTO community—a significant surge in CTOs’ budgets. An impressive 79% of CTOs reported an increase in their organisation’s tech spending over the past year, with 31% describing these increases as significant. This remarkable upswing represents a staggering 72% surge compared to the figures from the previous year.

The noteworthy rise in fund allocation, indeed merits attention. However, it prompts a crucial question: Is this surge in spending translating into enhanced delivery and overall effectiveness for businesses?

Spending VS Effectiveness

The answer, surprisingly, is not as straightforward as one might anticipate. While a boost in spending appears as a logical solution to improve project outcomes, our research uncovers a perplexing paradox. Despite the budget increase, many businesses continue to grapple with challenges in tech delivery. In essence, increased financial support does not always guarantee an equivalent increase in effectiveness.

This disconnect between tech spending and project success compels us to delve deeper into the underlying dynamics. Why do businesses, despite generous budgets, still struggle to optimise their delivery processes?

Budget Constraints as a Barrier

Our research further illuminates a noteworthy revelation—the second most significant hurdle faced by CTOs in initiating projects is “insufficient budget,” cited by 43% of respondents. This might initially appear contradictory to the earlier findings, but it underscores a fundamental issue: the allocation of monetary resource.

This conundrum underscores the importance of not just securing sufficient budgets but ensuring their optimal allocation to address the most critical challenges and project requirements. It highlights the need for cost-effective strategies that drive tangible results. By comprehending and addressing these challenges, organisations can harness the true potential of mindfully increased spending.



How has your organisation's technology spend changed over the past 12 months?

48%

Significantly increased

31%

Slightly increased

16%

Stayed the same

5%

Slightly decreased



Training and in-house learning are key to development team success

06

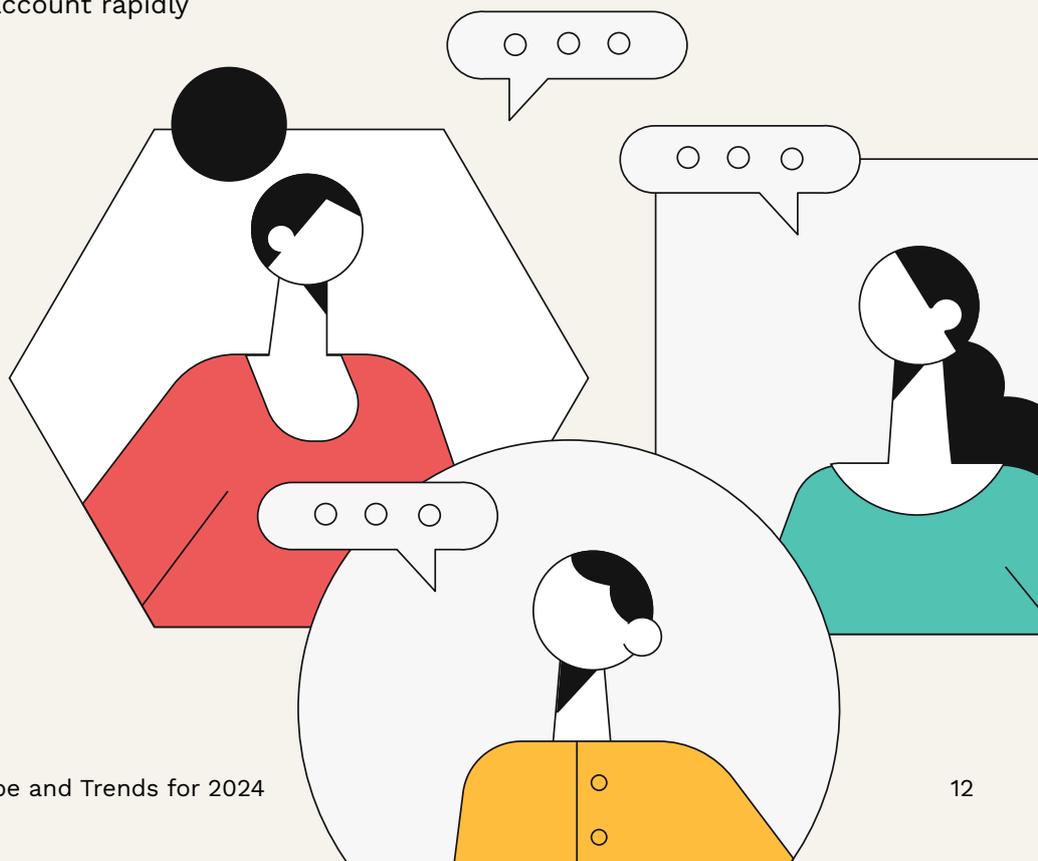
The ever-growing digital skills gap is forcing CTOs to consider alternative ways of cultivating their tech-talent and achieving team success.

According to a McKinsey & Company survey, over 44% of well-known organisations expect a significant talent gap in the next five years. This has led to an increasingly candidate-led market, forcing CTOs to do more in ensuring that their in-house development teams are happy and successful.

Today, CTOs are exploring innovative approaches, such as in-house training and team augmentation, to build and empower their teams. These strategies not only enhance engagement but also reduce developer turnover, keeping teams motivated and enthusiastic about their work.

[VIEW LINK →](#)

When asked what is the paramount to achieve this success, a resounding 43% of CTOs affirm that opportunities for learning and growth are the most important. This statistic highlights a pivotal challenge that CTOs are confronting: finding the delicate balance between keeping in-house teams motivated and taking into account rapidly changing future trends.



A High-Stakes Juggling Act

Implementing an in-house training program is not without its challenges, and CTOs must navigate these hurdles effectively. It has to be a multifaceted endeavour, with a thoughtful and holistic approach to talent development.

Key challenges that demand attention:



01

Balancing Short-Term Needs and Long-Term Strategies:

The paramount challenge for CTOs lies in striking the right balance between addressing immediate needs and aligning with the long-term strategies for mitigating the talent shortage.



02

Resource Allocation

Managing the allocation of resources for in-house training is another significant challenge. CTOs must allocate both time and budget to ensure that learning and growth opportunities are readily available to their development teams. This requires careful resource planning to prevent overburdening the team with training while still meeting project deadlines.



03

Identifying Skill Gaps

Conducting a thorough assessment to pinpoint skill gaps within the development team is an ongoing challenge. It's essential to identify areas where additional training is required to keep the team's knowledge and skills current.



04

Retention of Talent

As CTOs invest in upskilling their teams, they must also consider how to retain this talent. Employees who receive training and acquire new skills may seek new opportunities if they feel undervalued or underutilised.



05

Leveraging External Expertise

Another challenge is effectively integrating external expertise into in-house training programs. Leveraging third-party contractors and external trainers can be complex, as it requires seamless knowledge transfer and collaboration.

Year-on-Year Predictions: The Changing Face of Technology

07

While many within this industry wish for a world with more simplified technology, the truth is that tech complexity isn't going anywhere.

Amidst this dynamic environment, AI is taking centre stage as a transformative force.

Let's take a closer look at CTOs predictions for 2023 and 2024, to understand how these changes are reshaping the roles and priorities of CTOs.

A Review of 2023 Predictions

48%

Future-proofing the Organization

Last year's survey revealed that CTOs are increasingly recognizing the need to adapt and prepare for the unpredictable future. Nearly half of the surveyed CTOs are focused on strategies to future-proof their organisations against unpredictable changes in the tech landscape.

37%

Managing Increasingly Complex Tech Environments

The complexity of tech infrastructures was a big concern for CTOs in 2023, reported by 37%. This includes dealing with diverse systems and platforms, cybersecurity, and ensuring seamless operations.

36%

Managing Data Privacy Issues Arising from Hybrid Working

2022 saw the first big wave in the introduction of intentionally hybrid working models. CTOs were confronted with privacy challenges concerning remote work. Safeguarding sensitive data and ensuring compliance with data protection regulations was seen as one of the top priorities for 36% of CTOs.

2024 and Beyond: Predictions

39%

Managing Increasingly Complex Tech Environments

The complexity of digital environments remains a top priority for CTOs in 2024, with 39% of respondents emphasising the need to adapt to and manage these complex systems effectively. The year-on-year change of this becoming the top priority for CTOs shows that there is more pressure now than ever before, for CTOs to ensure their operations are agile and able to be reactive to a continuous change in trends.

35%

Factoring in AI Across the Organization

A new contender in our top priorities list for 2024, shows that for more than 1/3rd of CTOs integrating AI into their businesses is crucial. This year has seen AI transform from a buzzword into a fundamental component of operational efficiency and competitiveness.

33%

Managing Data Privacy Issues Arising from Hybrid Working

Data privacy challenges persist in 2024 as a significant concern, with 33% of CTOs prioritising robust data protection measures in the context of the hybrid work model.

Analysing the Trends

It's intriguing to note several key trends and shifts in the priorities of CTOs for 2024:

Growing Tech Complexity:

Managing complicated tech environments has become the most significant remit for CTOs in 2024, highlighting the ongoing trend of increasing complexity. This indicates that leaders must continuously adapt to new challenges and innovations.

AI Takes Center Stage:

The prominence of AI in the CTO's agenda is a noteworthy shift from just a year ago. This technology has seen a similar rise to Meta, NFTs and Crypto in 2022.

However, while the aforementioned innovation mostly fell to the wayside, due to its lack of real world application, AI has already proved to be vital, and incredibly useful for professionals and business owners across the globe.

Hybrid Working Challenges:

The persistence of data privacy concerns related to hybrid working is a trend that parallels the actions of tech giants like Zoom, which are making surprising U-turns on remote work policies. The hybrid working model poses unique challenges that demand innovative solutions and robust data protection measures, which CTOs must begin addressing sooner rather than later.

[VIEW LINK →](#)

CTOs Recognise the Value of Team Augmentation beyond Quick Fix

08

Our survey reveals that CTOs today understand that team augmentation goes beyond being a quick solution to the tech talent crunch; it represents an opportunity for businesses to thrive.

This paradigm shift is transforming the way organisations approach their resourcing initiatives and is redefining their relationship with external developers.

Top 3 Benefits

When asked about their experience with Team Augmentation, CTOs noted 3 key strategic benefits that engaging 3rd party developers offers, beyond merely plugging talent gaps.

These benefits are:

Knowledge Transfer:

45%

Team augmentation offers a unique opportunity for in-house teams to benefit from the diverse skills, experiences, and approaches brought by external developers. The exchange of knowledge enriches the internal team's expertise, fostering innovation and growth. Finding talented and passionate developers to join your team can help connect a wealth of external insights to the organisation's internal capabilities.

Cost-Effectiveness:

40%

Working with external developers who offer competitive rates is a financial advantage that CTOs cannot overlook. Businesses can efficiently allocate resources to meet their needs without the burden of extensive in-house expenses. This cost-effectiveness empowers organisations to invest in other critical areas while maintaining a strong internal team. What's more, for businesses looking for short-term or flexible engagements, team augmentation offers a unique opportunity to engage resources only when and where they need them.

Fresh Perspectives:

35%

External developers often bring not only technical skills but also relevant industry experience. This fresh perspective infuses innovation and agility into projects. Their understanding of industry nuances, having often worked on a wide variety of projects, allows CTOs to steer projects with a greater degree of accuracy, ensuring that they stay aligned with market demands and trends.

A Paradigm Shift

The shift towards team augmentation is driven by a dual recognition: first, that the tech talent crunch is not a fleeting challenge but a persistent condition, and second, that external developers offer a wealth of knowledge, cost-effectiveness, and fresh perspectives.

This paradigm shift is not just about filling gaps; it's about strategically leveraging external expertise to position businesses for long-term success.

Perhaps the most difficult part of beginning the team augmentation process is finding developers who are truly passionate about your project and engaged with your vision. This is where trusted team augmentation partners such as us at Deazy come into play.

What would be the advantages of augmenting your team with external help?

45%

Knowledge Transfer:

Benefit and learn from working with different people with different skills, experiences and approaches

40%

Cost-Effectiveness:

Getting access to developers who offer competitive rates.

35%

Fresh Perspectives:

Ability to work with developers who have relevant technical knowledge and industry experience

33%

Rapid Scalability:

Ability to hire and onboard developers quickly.

32%

Specialised Expertise:

Ability to diversify my company's usage of tech stacks, by getting access to flexible development experts

91% of CTOs agree that a Head of People is crucial

09

The dynamics of tech organisations are shifting rapidly, and so are the expectations of the people within them.

It is becoming increasingly evident that if businesses aren't employing a Head of People, they risk falling behind. This role, which was once considered an optional luxury, is now a crucial component of successful leadership.

Our research shows that 91% of CTOs work for a business that either has a Head of People or is actively recruiting for one. Today, the role of this leader is no longer confined to managing HR processes but extends to shaping the company's culture, values, and its impact on the wider community.

The Ethical Imperative

In an era where employees are becoming increasingly aware of how their employers affect the world around them, a misalignment of values can have significant consequences. This is especially true for younger employees, including the Gen Z and Millennial generations, who hold strong values and beliefs when it comes to their employers' ethics.

Deloitte's annual Gen Z and Millennial survey offers eye-opening insights into this aspect. It revealed that a substantial proportion of Gen Z (44%) and Millennials (37%) reported turning down assignments due to ethical concerns or values misalignment. Furthermore, 39% of Gen Z and 34% of Millennials even rejected job offers for the same reasons.

[VIEW LINK →](#)

The pressure on management to align with the values and expectations of their workforce is palpable. Deazy's CTO survey affirms this, demonstrating that tech leadership is increasingly feeling the same pressure to be mindful of their people and their values.

In today's candidate lead market, making sure that your company has strong values which your employees resonate with is crucial. Failing to do so, may not only hinder your recruitment process, but also come to affect your bottom line.

The Head of People as a Change Agent

Today, the Head of People is more than an HR manager; they are a change agent, fostering a work environment that aligns with the values of the organisation and its employees. In today's increasingly people-centric job market, they play a pivotal role in attracting and retaining top talent. What's more, this role provides a crucial ethical compass for businesses, and helps ensure that businesses are able to be a positive force within their wider community.



Does your company currently employ a Head of People?

My organisation...

53%

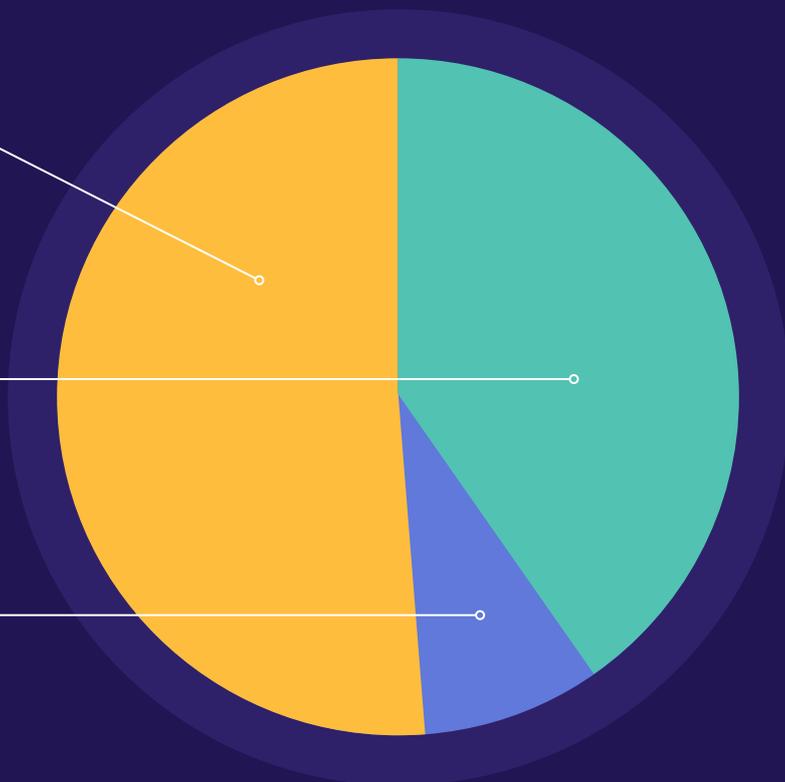
Yes, we employ a Head of People/Chief of People

39%

We are considering hiring a Head of People/Chief of People

8%

No, we don't employ a Head of People



Conclusion

So what comes next?

The insights and findings shared in this eBook provide a window into the ever-changing landscape of technology, a realm where innovation meets its fair share of challenges and opportunities.

On the surface the future challenges faced by CTOs might paint a daunting picture for 2024 and beyond. However, new solutions are making the ever-present resourcing challenges faced by businesses easier to manage.

At Deazy, we are more than just observers of this landscape; we are enablers of progress and success. Our mission is to power up digital delivery, matching companies with vetted developers and teams. We aim to create flexible, custom solutions to your unique business model and projects.

85

Teams

6,000

Developers

500

Project Managers

Trusted by:

Empowering Every CTO

The challenges and opportunities revealed in our survey make it clear that technology leaders must continue to focus on finding new solutions for tackling ever evolving hurdles.

Hiring and retaining quality talent in-house has become a complex and uncertain endeavour. The risks associated with traditional outsourcing have only compounded these challenges. Trusting established resourcing routes, even when they may no longer be as effective, has become a default response.

However, CTOs need to rise to the challenges of today's tech world.

This is where Deazy steps in, offering a transformative solution to the resource obstacles that CTOs face:



Capacity:

Deazy provides an avenue to increase your capacity with highly skilled, flexible talent or teams to meet your specific needs.



Capability:

We offer a broad range of expertise and knowledge across various technologies, ensuring you have access to the right skills and capabilities.



Quality:

Our commitment to operational excellence and proactive monitoring means that you can trust us to deliver to time, cost, and quality, reducing the risk associated with outsourcing.



Agility:

We empower you to accelerate delivery with flexibility, allowing you to plug skills gaps across your department and consistently deliver against your roadmaps.



Deazy offers total confidence in your tech delivery, enabling you to focus on innovation and business growth. We bring you the expertise, skills, and capabilities needed to thrive in the fast-paced world of technology, without compromising on quality or security.

With Deazy, you can trust that your critical business initiatives and strategic systems are in safe hands.

In a world where technology is the lifeblood of every business, we are here to empower you in navigating the challenges, seizing the opportunities, and ensuring the success of your tech projects.

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Methodology

The findings presented in this ebook are the result of independent research conducted with the aim of gaining a deeper understanding of the challenges, concerns, and priorities faced by Chief Technology Officers (CTOs) in the United Kingdom.

This research was carried out through a comprehensive survey that involved engaging with 100 UK-based CTOs.

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