

2022 Chief Data Officer survey

September 2022

The background of the entire slide is composed of three vertical stripes of different shades of green. Overlaid on these stripes are large, faint, concentric circles that create a ripple effect across the entire image.

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# Executive summary

In recent months, we have spoken with Chief Data Officers (CDOs) and senior data leaders from across multiple industries to answer a key question: 'what is a CDO, and how does the CDO create value?'

## What is a Chief Data Officer?

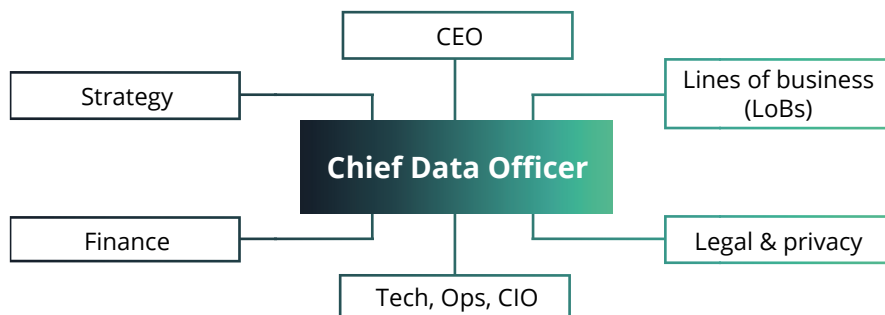
Whilst we found surprising diversity in our interviews, a consistent theme was that a CDO is a leader who creates value from data, overseeing data enablement and control.

CDOs lead a range of data-related functions, most frequently data management and governance but also insight-generation, typically owning data science and analytics capabilities. With both business and technology facets to their role, they make an important contribution to guiding strategy and performance.

CDOs frequently bring together a unique set of characteristics, including high data and technology expertise, business acumen, experience in risk and governance, curiosity, problem-solving and team-working. Perhaps most importantly, CDOs collaborate with a range of other senior leaders (see below) to apply data to business performance and improvement.

## How do CDOs work with the wider organisation?

CDOs support organisations and C-level colleagues by providing capability, capacity and expert knowledge into development and improvement of data intensive activities. All functions in an organisation can benefit from making better use of data in decision-making and daily operations.



The CDO role has evolved over time – from a focus on governance to a broader remit:

### Emergence

Early CDOs, typically working under a CFO or COO, focused on data governance and control. Regulated industries were encouraged by regulations to create and hire CDOs.

### Current status

The role has expanded to include data enablement – driving business value from data by leveraging analytics, data science and AI, supporting growth, as well as cost and risk reduction.

### Future evolution

CDOs increasingly report to the CEO, and become a key enabler to a wide array of CXO / LoB leaders. Organisations become increasingly “Insight Driven” – an initiative led by CDOs.

# Executive summary

CDOs are working to define their own roles, and educate others on this, as well as grappling with challenges in recruitment, skills and culture as much as they are with technology and data itself.

## Key findings from the survey

- Survey participants confirmed that **there is no typical CDO role** – for example, the understanding of the CDO role still varies greatly across industries.
- CDOs typically have a **very broad set of internal stakeholders**, spanning front- and back-office functions and technology teams.
- Most CDOs **do not report to an Executive Committee (ExCo) member or board member**, which can limit CDOs' ability to drive change.
- Many CDOs are concerned with changing the organisational data culture and **lack of broader data literacy remains a barrier**.
- CDOs are looking to shift their balance towards **more strategic and less operational focus**.
- Over 80% of CDOs **do not identify as technologists** – and rely on IT teams to support data platforms and vendor relationships.
- CDOs are looking to **develop their business case** for funding data transformation.
- CDOs are **growing their teams**, to support a wider range of business and capability areas – but face challenges in a **highly competitive market for skills**.
- Developing their teams' skills – CDOs are focussing on **developing skills in house** as much as they do on **recruitment and third parties** – including for data architecture, analytics, engineering, data governance and cloud.

## Key data points

Of the CDOs interviewed:

**71%** do not have a **direct reporting line to an Executive Committee member / to the Board**.

**71%** reported that the level of **data skills** in their organisation was one of their top three challenges.

**68%** are focused on **improving the use of insights and analytics** as one of their top three priorities.

**61%** placed **delivering their data strategy** as one of their top three priorities.

**54%** stated the level of **data literacy** in their organisation is one of their top three challenges.

**50%** reported that **developing the organisational culture to value data more highly** is one of their top three priorities.



# 01

## Introduction

What is the CDO survey?  
Who has been involved?

# Introduction

This report is our first to focus exclusively on CDOs and their teams, taking a cross-industry viewpoint. The objective is to identify insights into the role which are relevant to all C-level executives including CDOs.

## Background

We understand from our participants that expectations of the CDO role vary considerably.

The 2022 CDO survey has been designed to provide cross-industry insights to better understand the role, the problems that CDOs and senior data leaders\* are facing and how to address common challenges.

## Approach

Working with a representative set of CDOs drawn from a range of industries, we have discussed the:

**CDO role**

**CDO's teams and data functions**

**Key issues that participants have experienced**

**Areas of focus for the future**

Following the interviews, we have analysed the transcripts to create a dataset of survey responses. Using this data we identified the key trends, observations and insights to share in this report.

[Click here for our detailed survey methodology](#)

*\* In this report "CDO" is used to represent individuals with the specific title of CDO and also those with similar responsibilities but different role titles including "Director of Data", "Group Data Officer", and "Head of Data".*

# CDOs' roles vary across industries

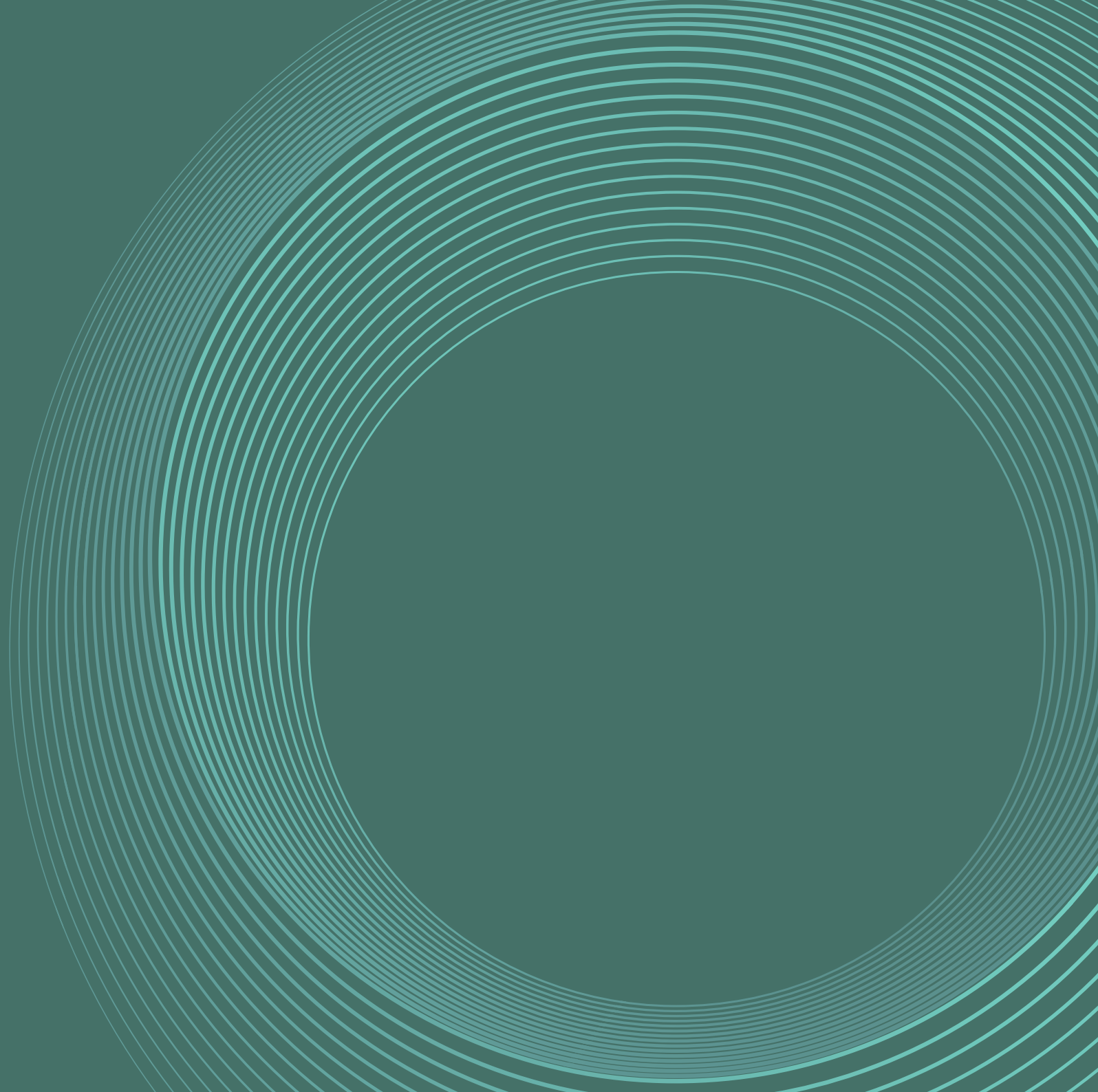
We interviewed and collated insights from a representative sample of CDOs across all industries. The focus of the typical CDO role varies across industries between an enabling focus on customer, products and quality, and a controlling focus on responsibilities around control, regulations and risk:



# 02

## The CDO role

What does a successful CDO look like?  
What are they responsible for? And  
what do they spend their time on?





# What does the data function typically look like?

Across organisations, there is variability in the relative size of data functions. There is no clear optimal level of data resource, but the average organisation in our sample has 0.4% of total headcount in central data teams.

CDOs typically have 5-8 direct reports, and...

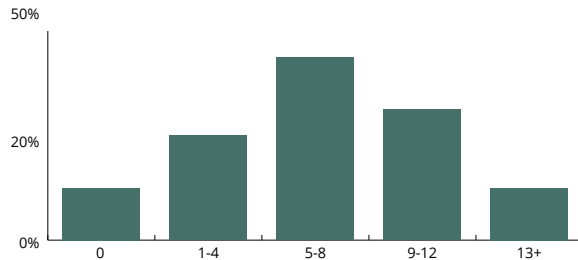


Figure 1: Number of direct reports to CDO

...CDOs' teams vary widely in 'absolute' size...

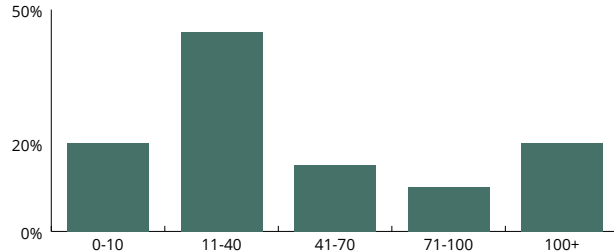


Figure 2: Central data function headcount

...and size relative to the organisation

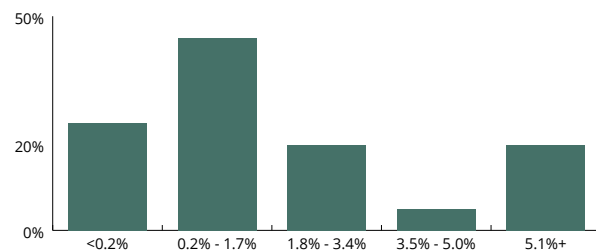


Figure 3: % of organisation headcount in data function

## Our perspective

Which roles typically report to a CDO?



Head of Data  
Governance



Analytics  
Lead



Lead Data  
Scientist



Data  
Strategy  
Lead



Head of  
Change



Data  
Management  
Lead



Lead Data  
Engineer

In our view, tracking the size and structures of data functions over time will be valuable to CDOs – and we intend to keep the question set in future versions of this survey, to develop a data set and to report these trends in future editions of the CDO survey.

## Additional observations

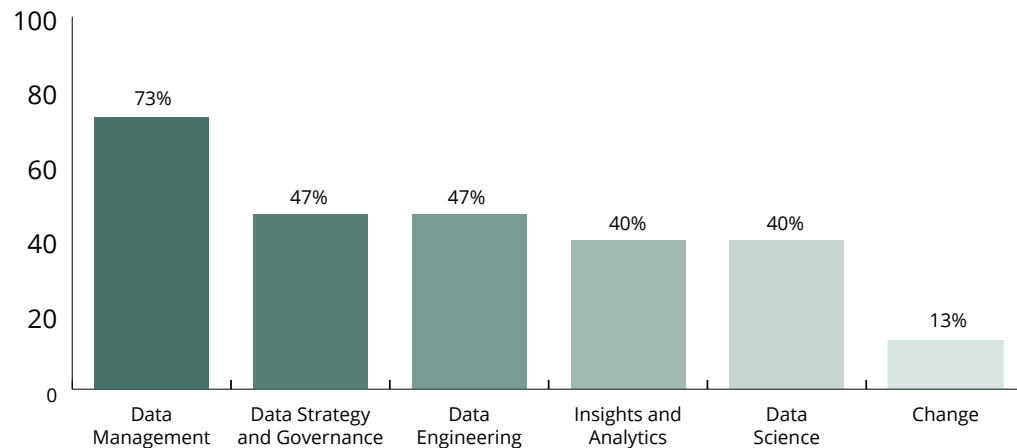
- Organisations have differing interpretations of the set of capabilities to be supported by CDOs, resulting in varying team sizes and shapes.
- CDOs' teams currently operate in a range of structures – from centralised, federated, and distributed across organisations.
- Almost all CDOs indicated they are actively looking to increase the size of their teams.

# What is the scope and mandate of a CDO?

**CDOs' responsibilities vary significantly: many CDOs do not have dedicated resources to cover core areas of scope.**

## What CDOs told us

While CDOs are involved in most of the areas in our model (see right) – many CDOs do not have dedicated resource to cover all areas. For example, 47% of CDOs have dedicated teams or resources for data engineering. We noted that many CDOs do not own 'on-shore' resources to support technical and data management work, and many use third parties and off-shoring for technical work. Many do have teams and resources focused on data management (73%), data strategy and governance and data engineering (47%). 71% of CDOs who have dedicated resources for data engineering and 67% who have dedicated resources for data science also have dedicated resources for data management.



**Figure 4: % of CDOs who have a dedicated team or resource in each area**

## Our perspective

### What are CDOs responsible for?



In our view, these are the key data roles to consider in establishing and updating a data function. There are many ways to cut the scope of data into capabilities and role descriptions, but these are some of the areas of greatest importance.

The relative focus on each area may develop and change over time – making the relationship between the CDO and each area, for example, CDO and Data Governance, or CDO and Data Engineering, more or less critical than before.

The CDO role was born out of Data Management, which is why most CDOs still have a dedicated team in this space. The idea of change being a responsibility of a CDO is an emerging trend and we expect this percentage to increase over time.

# What are the common attributes of CDOs?

These attributes of CDOs were clear from our interviews:



## Data acumen

CDOs understand how data can support their wider organisational strategy, and how to shape strategy through better use of data. CDOs are skilled at influencing value drivers in their organisation.



## Data Risk / Governance expertise

Data security, privacy and accuracy must be at the heart of everything an organisation does. It may not be the primary focus for CDOs, but they must be aware of risks and know how to assess and manage them.



## Ability to communicate using data

CDOs are expert story-tellers who are able to communicate analysis, solutions and options that solve business problems using data and insights.



## Curiosity and a drive to improve ways of working

Technologies, methodologies and ways of working are constantly evolving - CDOs often identified that they must be curious about developments in data and tech, so they can understand, interrogate and push the limits of what is possible.



## Multidisciplinary teamworking and collaboration skills

Relationship building and teamworking skills are essential as CDOs do not often report to the executives that they need to collaborate with, nor do they typically own the systems where data resides.

CDOs must be able to build and maintain relationships with a wide range of colleagues wherever they sit in the organisation and whatever their primary objectives are.

# How do CDOs work with the wider organisation?

The CDO role supports the wider organisation with the data capabilities it needs to perform – hence the CDO will need to collaborate with a wide range of senior colleagues.

## Our perspective

How CDOs support and collaborate with C-level and other senior colleagues:



### CEO / CSO

**Chief Executive Officer /  
Chief Strategy Officer**

The CEO and CDO should maintain regular interaction – CDOs should work with CEOs to support organisational development with data. CSOs and strategy leaders should also work closely with the CDO to ensure they have access to the necessary strategic insights.



### CFO / CRO

**Chief Financial Officer /  
Chief Risk Officer**

CFOs and CROs are concerned with the quality and accuracy of data, especially master data, transactional financial data and company performance data, and should engage and collaborate with the wider data organisation including the CDO on a regular basis.



### CLO / GC / DPO

**Chief Legal Officer /  
General Council / Data  
Protection Officer**

The CLO/General Counsel and Data Privacy / Data Protection Officer are accountable for protecting the organisation from data risks, hence will be a key collaborator with, and ally for, the CDO.



### CIO / CTO / COO

**Chief Information Officer /  
Chief Technology Officer /  
Chief Operating Officer**

Depending on the organisation, CTOs, CIOs, and COOs will be suppliers and enablers of the technology needed to support data and analytics operations, as well as being potentially consumers of data and insights from the CDO function.



### LoBs / Other CXOs

**Lines of Business  
Executives**

Lines of business or profit centres are key data consumers, and depending on the organisation and industry sector, CDOs may also engage with product, marketing, HR, etc, to help optimise performance.

# The four faces of the Chief Data Officer framework

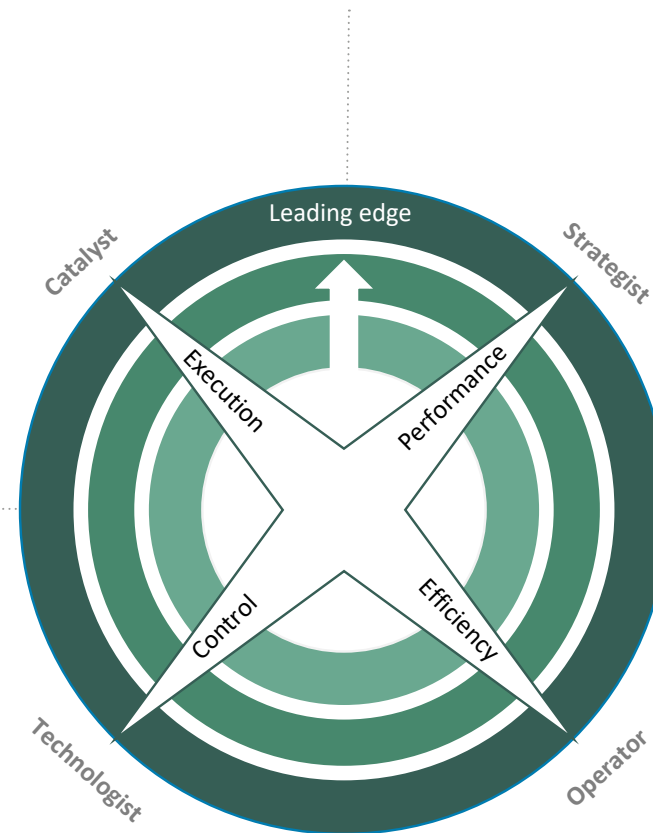
Our “four faces” framework has been used successfully in a number of other Deloitte CXO programmes. Applying this framework to the CDO role, we asked our participants where they (a) spent their time now and (b) where they would like to spend their time in the future.

## Catalyst

Championing the benefits of data, including analytics, for the organisation, influencing behaviours and establishing a culture that adopts an insight-driven approach to strategic business decision-making.

## Technologist

Assessing new data platform technologies and designing data technology platform architectures to increase business agility and manage complexity.



## Strategist

Providing leadership for data activities so that data is seen as a strategic asset. Partnering with the business to enable the use of data and insights to help achieve corporate objectives.

## Operator

Operating efficient data services and solutions to support the business while managing risk and protecting core assets.



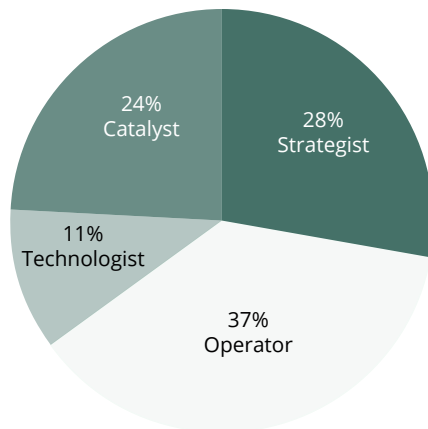
# The four faces framework

## Summary

**73% of participants indicated that they would like to change how they spend their time across the four faces.**

### Now

CDOs reported that they see their current role split across all four faces, but with the strongest focus on Operator: delivering data services to support the business.



**Figure 5: Four faces: current role**

#### Technologist

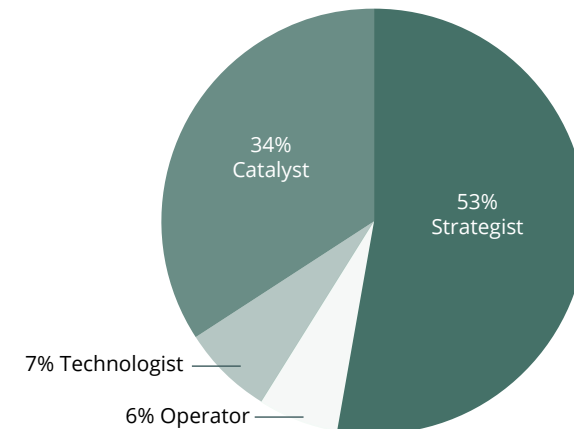
53% of participants did not allocate time to the technologist role at all. No CDOs identified 'Technologist' as being their main focus.

#### Operator

Participants flagged that they currently spend the majority of their time as an operator, with over half of participants highlighting it as their dominant or jointly dominant role.

### Future

CDOs reported to us that they would like to focus most of their effort on Strategist: leading data activities across their organisation.



**Figure 6: Four faces: future role**

#### Catalyst

73% of participants want to continue to dedicate the same amount of time or more time to their role as a catalyst.

#### Strategist

60% of participants indicated they want to increase their time focused on setting direction and strategy, on average increasing the amount of time they dedicate to this by nearly double.

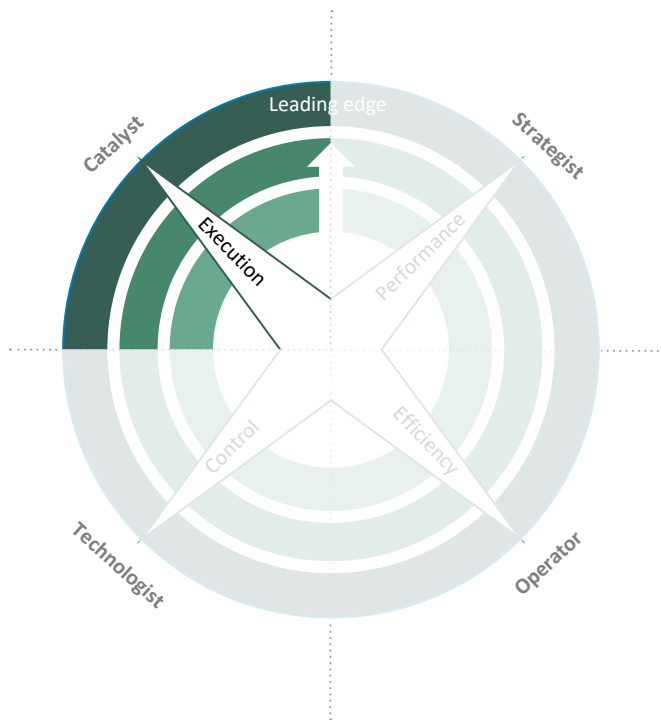
# The four faces framework

## Catalyst

The Catalyst aims to champion the benefits of data, including analytics, for the organisation, influence behaviours and establish a culture that adopts an insight-driven approach to strategic business decision-making.

### Survey outputs: what CDOs told us

- CDOs see the Catalyst lens as a core aspect of their role today and in the future.
- CDOs are looking to spend more time in the Catalyst role in future, than they do today.



### Key focus

- Leading the data and analytics innovation agenda for the organisation.
- Changing organisational behaviour and establishing a value attitude.

### Key roles

- Acting as the champion for data and analytics of the company to internal and external stakeholders.
- Aligning strategic objectives and business benefits from an analytics perspective to enable better cultural adoption.
- Nurturing ways of working with data and tech across the organisation.

### Competencies

- Confidence adapting to disruptive technologies and suggesting new ideas.
- Business perspective, change and conflict management, organisational agility and facilitation.
- Strong communication and change management skills.
- Understanding of key performance measurements to measure success of strategic initiatives.
- Strong leadership skills.

### Critical issues

- Establishing a structure of enterprise-wide accountability for results, driving execution.
- Gaining buy-in from business management for utilising data and analytics innovation.
- Maintaining the enterprise-wide momentum for innovation and keeping abreast of the latest data and technology trends.
- Implementing strategic initiatives while business models continue to change through extended business relationships, delivery models and global expansion.

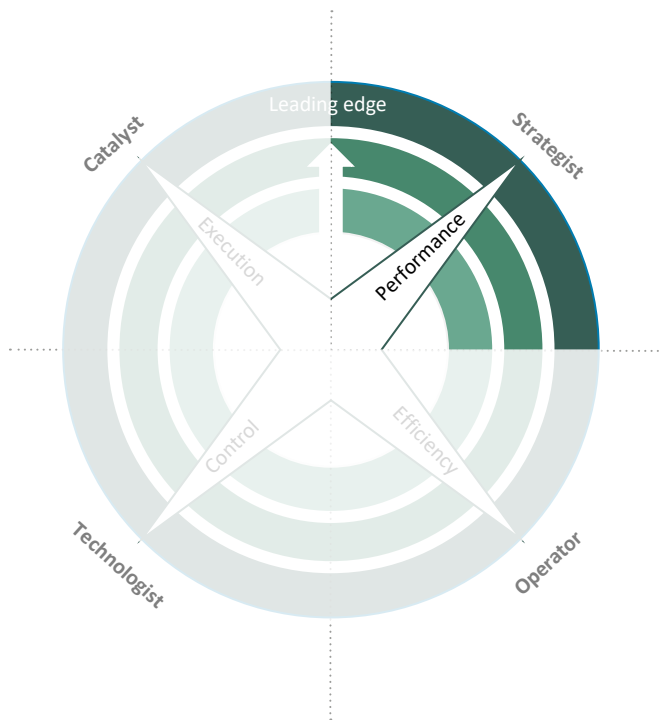
# The four faces framework

## Strategist

The Strategist aims to provide leadership for the data activities and partner with the business to enable the use of data and insights as a strategic asset to help achieve corporate objectives.

### Survey outputs: what CDOs told us

- CDOs see the Strategist lens as a core aspect of their role today and in the future.
- CDOs foresee the largest amounts of time being allocated here in future.



### Key focus

- Helping to set the future direction of the company in order to enhance business performance and shareholder value.
- Establishing focus on the right analytics opportunities that generate business value.

### Key roles

- Gaining business alignment to successfully identify, evaluate and execute strategies.
- Being a business partner with other CxO and business unit leaders to educate on the value of analytics.
- Generating cross-organisational value through analytics.
- Creating an analytics and AI lens to support the effective execution of the strategic initiatives of the company.

### Competencies

- Critical thinking, analysis and presentation of data.
- Global perspective, strategic agility, dealing with ambiguity.
- Data and analytics experience.
- Strong business partnering skills.
- Strong leadership skills.

### Critical issues

- Silos and varying levels of analytics understanding/maturity or buy-in across the organisation's departments.
- Providing an analytical perspective on innovation, profitable business growth and translating external trends into internal business imperatives.
- Providing the analytics related information and tools necessary for the organisation to make sound business decisions.

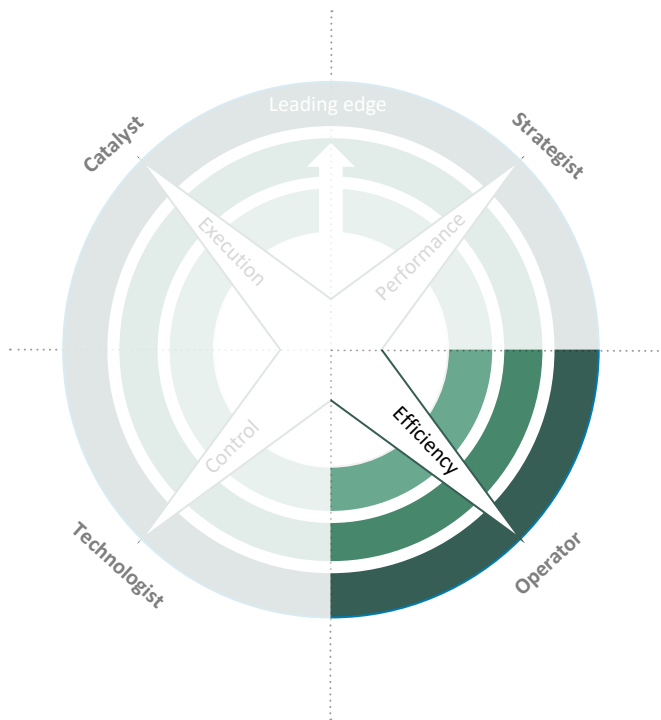
# The four faces framework

## Operator

The Operator aims to run and deliver efficient data services and solution to support the business while managing risk and protecting core assets.

### Survey outputs: what CDOs told us

- CDOs see the Operator lens as a core aspect of their role today.
- CDOs foresee the smallest segment of their time being allocated here in future.



### Key focus

- Ensuring the efficiency and effectiveness of the operations of the analytics function.
- Adding value to the organisation and keeping a clear business case for analytics.
- Industrialising analytics for the business.

### Key roles

- Dynamically balancing cost, risk and service levels in delivering on the analytics function's responsibilities and clear service catalogue.
- Defining and adapting the analytics operating model to deliver for the organisation at scale, integrated with the enterprise-wide data architectural direction.
- Developing the data and analytics talent.
- Establishing and leading on the data and analytics benefits tracking.

### Competencies

- Confidence adapting to disruptive technologies and suggesting new ideas.
- Business perspective, change and conflict management, organisational agility and facilitation.
- Strong communication and change management skills.
- Understanding of key performance measurements to measure success of strategic initiatives.
- Strong leadership skills.

### Critical issues

- Establishing a structure of enterprise-wide accountability for results, driving execution.
- Gaining buy-in from business management for utilising data and analytics innovation.
- Maintaining the enterprise-wide momentum for innovation and keeping abreast of the latest data and technology trends.
- Implementing strategic initiatives while business models continue to change through extended business relationships, delivery models and global expansion.

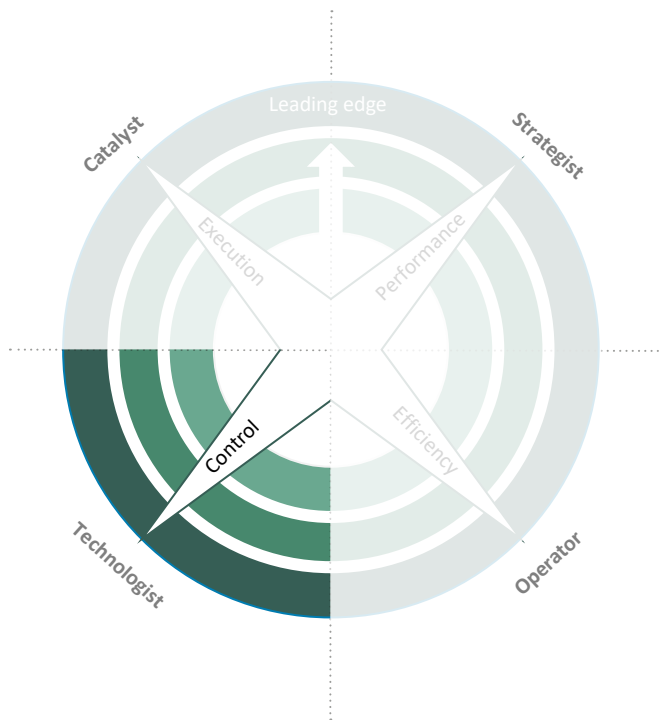
# The four faces framework

## Technologist

The Technologist aims to assess new data platform technologies and design data technology platform architectures to increase business agility and manage complexity.

### Survey outputs: what CDOs told us

- CDOs see the Technologist lens as the smallest part of their role today.
- CDOs are looking to spend less time in the Technologist role in future, than they do today.



### Key focus

- Leading the technology innovation agenda for the organisation.
- Changing organisational behaviour to use data and systems differently.
- Leading the data disruption agenda for the organisation.

### Key roles

- Acting as the champion for data technologies across the company to internal and external stakeholders.
- Aligning strategic objectives and business benefits from an analytics perspective to enable better cultural adoption.
- Defining and adapting the technology operating model to deliver for the organisation at scale, integrated with the enterprise-wide data architectural direction.

### Competencies

- Confidence adapting to disruptive technologies and suggesting new ideas.
- Business perspective, change and conflict management, organisational agility and facilitation.
- Strong communication and change management skills.
- Strong leadership skills.

### Critical issues

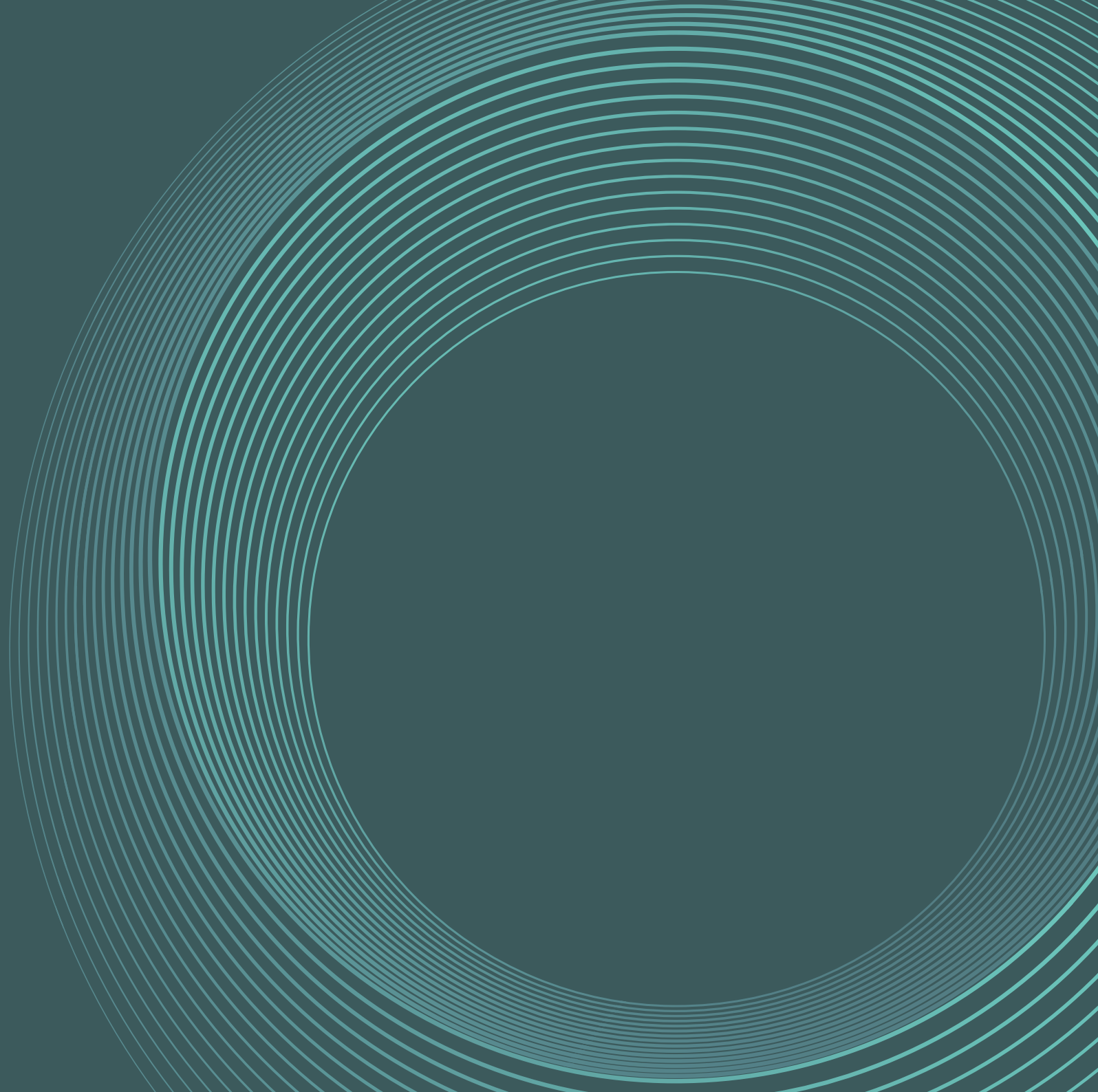
- Gaining buy-in from IT and the business for utilising analytics and innovative technologies.
- Maintaining the enterprise-wide momentum for innovation and keeping abreast of the latest technology trends.



# 03

## CDO focus areas

What are CDOs focusing on in the near future – including priorities and challenges?



# What are CDOs focused on?

When we asked CDOs to discuss their top three priorities, the most commonly selected areas were embedding analytics, realising their data strategy and changing organisational culture.



## 68%

of CDOs identified improving the way they use **insights and analytics** as being one of their top three priorities.

[More information on page 21.](#)



## 61%

of CDOs identified delivering on **data strategy** as being one of their top three priorities.

[More information on page 23.](#)



## 50%

of CDOs identified that **improving their organisational culture of valuing data** is one of their top three priorities.

[More information on page 25.](#)

# CDOs are focused on improving analytics

The CDOs that we interviewed are focused on accelerating the adoption of analytics at all levels and embedding it into business-as-usual activities, rather than maintaining separate analytics activities or stand-alone projects.

## Our perspective

### What is analytics?

Analytics describes use of data to obtain valuable insights and information. Using data, organisations can understand their current performance and make predictions about the future - improving their ability to gain confidence in strategies and plans, to monitor progress, to optimise performance, and to predict risks and impacts of decisions.

### Why is embedding analytics important?

Cultivating and widening the usage of analytics can help executives and their teams make better decisions. As analytics is embedded into more and more business processes, it becomes easier to monitor progress towards key objectives and understand the drivers of performance.

Development and embedding of advanced analytics (beyond simply 'descriptive' analytics) can help an organisation to realise its strategy and business objectives by shifting focus towards more 'predictive' and 'prescriptive' analytics. This is where the data is used to make predictions about the future and advise on the optimal course of action, in addition to reporting on historic data - i.e. providing insights into what has just happened and what happened in the past.

**"Resistance to change is still a significant challenge."**

CDO survey participant, 2022



**68%** of CDOs interviewed identified improving the way they use **insights and analytics** as being one of their top three priorities.

## What we heard from CDOs

Many CDOs indicated they are looking to improve the use of advanced analytics including artificial intelligence (AI) and machine learning (ML) solutions. 71% of CDOs we interviewed highlighted they currently have multiple AI / ML solutions live, or in development, whilst the remaining 29% are instead focusing on improving their descriptive analytics capabilities including reporting / dashboarding.

Figure 7 highlights the key barriers that CDOs have experienced whilst looking to improve the analytics capabilities within their organisations. For more detail on our findings for data culture and data literacy, see pages 25 and 32 respectively.

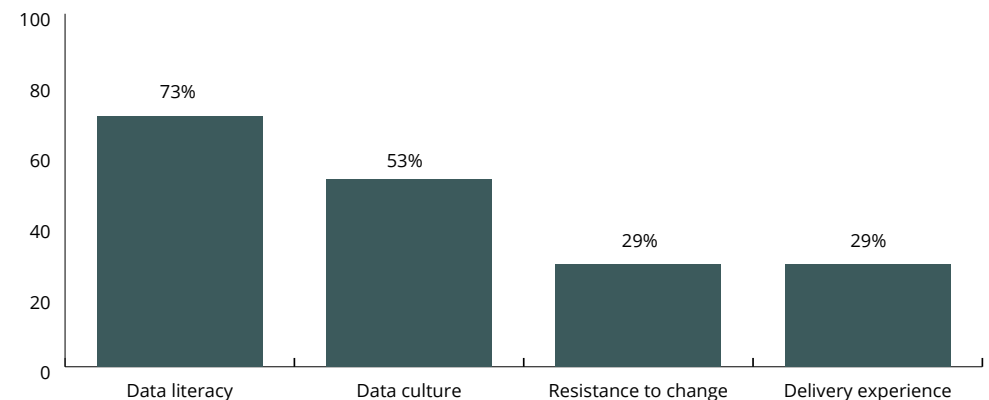


Figure 7: Challenges in improving analytics

# CDOs are focused on improving analytics

**Generally, we observed CDOs want to make better use of their data, but what are they doing to remove the barriers to improving the analytics within their organisation?**

## Developing the analytics delivery model

Over 60% of CDOs are changing their analytics delivery model by changing the degree of centralisation. Although 71% of CDOs operate a federated or distributed model, we did not observe any clear trend in the direction for change – some CDOs making the case for less centralisation, and some for more centralisation – with each moving towards an approach that best fits their organisation's current needs. We have heard examples of both:

- Applying a Centre of Excellence model to provide overarching guidance while embedding analysts into different parts of the business.
- Creating a single analytics unit that delivers analytics as a service to the business units.

## Investing in data & technology

Getting the right people and the right tools is a key factor in improving the use of analytics within any organisation. CDOs highlighted that securing budget has been a challenge as it can be difficult to demonstrate return on investment and get senior buy-in.

CDOs recognise that their success in advancing analytics requires funding and are investing in growing their analytics capability both in terms of:

- Finding the right tools for their organisations that facilitate the delivery of required business insights.
- Working with people and change teams to co-develop data-specific courses and materials to upskill all staff at all levels.

# From designing to delivering the data strategy

Defining and communicating a data strategy is a fundamental responsibility shared by all CDOs. Delivering this strategy is a key focus for the majority.

## Our perspective

### What is a data strategy?

A data strategy describes the objectives, capabilities, responsibilities and activities needed to help organisations make the most of their data, in a secure and controlled way.

It should include a vision that sets out how data will create value for the organisation and support delivery of organisational strategy and objectives. One of the key components of a data strategy is an outline of the data capabilities that the organisation needs to build towards (the target state) and how they support the overall organisational strategy.

Data objectives outlined in the strategy should be aligned to the wider organisational objectives, and should provide a means of tracking measurable progress towards goals.

Data strategies typically also include details on current data capabilities, an assessment of progression towards the target state, and a roadmap or timeline that sets out the ongoing or upcoming initiatives that will develop data capabilities and embed these to deliver the vision.

**“Strategy is about making choices – and a data strategy is no different. For CDOs to make a meaningful contribution to business success they should engage with tough trade-offs and work collaboratively with other executives to agree the most important priorities for data investment.”**

Nick Seeber, Partner, Deloitte



**61%** of CDOs interviewed identified delivering on **data strategy** as being one of their top three priorities.

## What we heard from CDOs

CDOs recognise that having a data strategy is key to effecting change, but also recognise that a strategy document and plan is not enough.

CDOs are increasingly focused on implementation of their data strategy, and are working to ensure that the data strategy is not a static document but a living and breathing point of reference, which evolves over time with changing business needs.

CDOs are working to make this a reality by managing data transformation as a programme, starting small, and rolling out use case by use case, ensuring that data initiatives are prioritised for funding and resourcing in alignment with needs.

**“We know what we want and we know where we need to get to, its just a matter of which building blocks go first.”**

CDO survey participant, 2022



# From designing to delivering the data strategy

Most of the CDOs we interviewed have a documented data strategy in place, and are now focused on delivering it.

CDOs that we interviewed are turning their data strategy into a reality by:

## 1

### Identifying and engaging key stakeholders

CDOs should identify and engage with consumers of data – these are the users who will be essential in the research necessary for the design of effective analytical solutions. These could be product, marketing, finance, or operations leaders. The focus is typically on communicating with and educating data consumers on the vision and how the CDO team can support.

## 2

### Defining success criteria

CDOs are defining what success looks like, specifically the metrics and KPIs that they will use to measure contribution to business success. Typically KPIs focus on business outcomes such as efficiency, time saving, cost reduction, revenue increase, margin improvements, service level improvements, or customer satisfaction.

## 3

### Developing the roadmap and delivery governance

CDOs are aiming to bring all of this together in a roadmap to articulate when data features will be delivered, and the value they will provide. As part of this, they are also formalising communication plans, delivery models, and governance models, and building networks of data evangelists and early adopters.

# CDOs want to promote an insight driven culture

CDOs are investing in culture change to help their organisations to use data more effectively.

## Our perspective

### What is an insight driven culture?

Culture is often defined as ‘what employees do when no-one is watching’ – so an ‘insight driven’ culture is one where employees instinctively use or seek to use data to inform decision making by default. Driving the maximum value from data requires a culture where data is used as a key input to decision making.

- Adopting an insight driven culture indicates an organisation’s change in approach, to focus on better using the information and tools that are available to them.
- For organisations to achieve this, employees need to be aware of the sources of data and insights that exist and how they can access them, as well as understand how data is currently being used and where there is opportunity for further analysis to take place.

**“Technologies and processes are necessary but not sufficient to enable organisations to succeed with data – it’s having an insight-driven culture that enables value to be delivered through data.”**

George Johnston, Partner, Deloitte



**50%** of CDOs reported that developing the **organisational culture** to value data more highly is one of their top three priorities.

## What we heard from CDOs

Almost all CDOs acknowledged the importance of data culture to their organisation, and recognised that changing mindsets is as important, if not more important, as making data more accessible.

Half identified addressing culture as a top three priority. One CDO noted that many people did not recognise that data driven objectives are a way to define ‘what good looks like’ – and also noted that this shows change is needed on a cultural level.

CDOs reported that creating a more data driven culture is essential to maximising the returns from any investments made in data.

One CDO reported that they had established a “data academy” to deliver basic training on data technologies, ways of working, and how and where to gather external data.

# CDOs want to promote an insight driven culture

CDOs are working to improve the culture of their organisations by:

## Challenging how decisions are made

Through challenging the norm of how senior leaders currently make decisions, CDOs can encourage the use of data to support them.

The CDOs we interviewed summarised that whilst mandating the use of data seems like a quick fix, demanding the use of data in their decision making does not always have the intended result.

Rather than dictating how data should be used, CDOs are opening up the conversation to change the mindsets of their colleagues, by asking:

- How do you use data in making this decision?
- How confident are you that you have all the information you need?
- How can I help improve that level of confidence?

## Sharing the vision

CDOs have a vision of how they intend their organisation to use data. When building an insight driven culture, it is essential to share this vision so it is well-communicated and understood by all departments and to all levels of seniority. There are various ways to convey the message and the exact method will inevitably vary for each organisation but you do not have to look too far to find some of the most powerful tools.

The CDOs we interviewed highlighted two actions that had the most success:

- Utilising success stories and having an advocate within the organisation explain how we have helped.
- Communicating plans (for example, the data strategy) and focus areas through a variety of mediums (emails, blogs, webinars).

**“Conceptually everybody ‘gets’ that data is important, and being data-driven is important, but part of our role is educating everybody that data is part of their own job, and it’s not just central teams that are going to deliver it.”**

CDO survey participant, 2022

# What are CDOs' challenges?

When we asked CDOs about their top three challenges, the most commonly selected areas were the relationship with the ExCo, data skills and data literacy.



## 71%

of CDOs interviewed identified **influencing the Executive Committee** as being one of their top three challenges.

[More information on page 28.](#)



## 71%

of CDOs interviewed identified being **constrained by limited data skills** as being one of their top three challenges.

[More information on page 30.](#)



## 54%

of CDOs interviewed identified being **constrained by data literacy** as being one of their top three challenges.

[More information on page 32.](#)

# CDOs are not on the Executive Committee

8% of CDOs we interviewed report directly into the CEO, whilst nearly all (88%) of the remaining CDOs report into another CxO. CDOs generally do not sit on ExCos.



**71%** of CDOs interviewed identified **influencing the Executive Committee** as being one of their top three challenges.

## Our perspective

### Who do CDOs report into?

CDOs are appointed as senior leaders to champion data, in recognition of the importance of organisations being more data-driven. However, there is wide variability across organisations in the reporting line and understanding of how best to drive value from the CDO role.

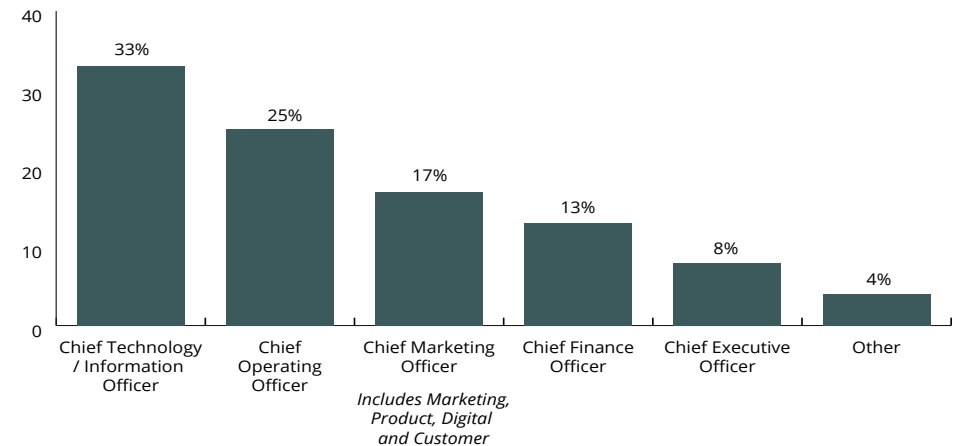
To maximise CDOs' impact and influence, and deliver the greatest organisational value from data, CDOs should ideally sit on the ExCo and report directly to CEOs.

**"The role oscillates between whether it reports to Digital, Finance, or Operations but it should report directly to the CEO."**

CDO survey participant, 2022

## What we heard from CDOs

Reporting lines for the CDO role are not consistent across organisations, most commonly CDOs reported into the Chief Technology / Information Officer.



**Figure 8: Who are CDOs reporting into?**

Noting that few CDOs report directly to the CEO, there would be benefit from reviewing these reporting lines in future. CDOs that do not have a direct line to their CEO have reported that they had struggled to make meaningful change, gain buy-in or funding.

Many CDOs viewed their role primarily as a change management role – managing the business and how the business develops and changes over time, informed by data, and not just managing the data itself. CDOs reported that their relationship with the CEO is critical to the change aspect of the role.



# CDOs are not on the Executive Committee

CDOs are working to address this challenge by:

## Refreshing the data organisation

CDOs are working to refresh their teams and functions to help drive change and gain buy-in from stakeholders.

Some of the actions taken by CDOs to re-organise their data functions include:

- Setting the CDO function up as a federated model – a centralised unit of expertise including project managers and data change professionals that co-ordinate embedded teams across the organisation.
- Breaking down organisation siloes and increasing wider collaboration.
- Changing their direct reporting lines, in some cases shifting towards directly reporting into the CEO.

## Educating widely on the CDO role

CDOs are working on communicating their role so that all stakeholders understand what they are (and are not) responsible for.

CDOs are spreading awareness and understanding of their roles though:

- Establishing a community of practice for non-data professionals so they can engage and understand how the CDO and their federated team can help them improve their processes, technologies and ways of working.
- Demonstrating the value that data has brought to the organisation by showcasing projects and solutions that have proved return on investment.
- Establishing and delivering appropriate data literacy training.

# CDOs are facing a shortage in data skills

CDOs are constrained in realising their vision as their teams lack sufficient expertise in Data Governance, Data Architecture, Data Engineering and Analytics.

## What data skills are most in demand?

69% of CDOs interviewed indicated that they have a shortage in data skills in their organisation. They see this as one of their biggest challenges in achieving their objectives and that of the organisation. CDOs that said they were constrained by the skills in their organisation, are constrained by the following skills in particular:

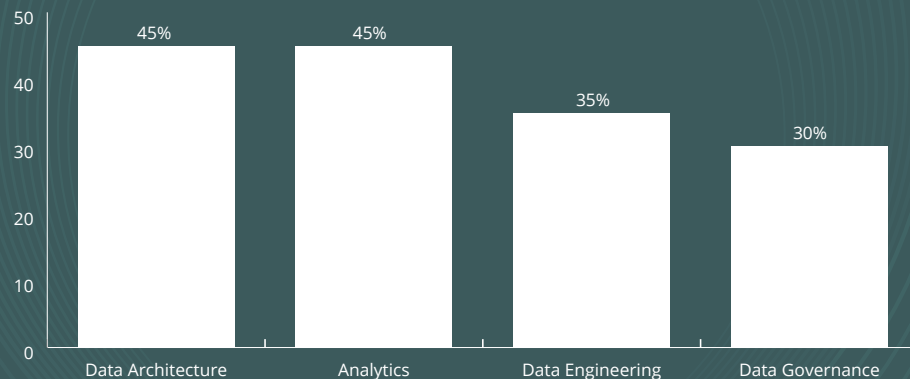


Figure 9: What skills are CDOs looking for?

Some CDOs also expressed concern at the lack of value for money when outsourcing to off-shore teams. Additionally, the data skills gap is exacerbated by outsourcing as this impacts the experience gained by in-house teams.



**71%** of CDOs interviewed identified being **constrained by limited data skills** as being one of their top three challenges.

## What we heard from CDOs

CDOs are very aware of the active market for data and analytics skills and the rising costs of these skills. They highlighted two specific challenges:

- Recruiting talent on a permanent basis, particularly in offices located outside of major cities.
- Providing development opportunities and structured career paths to retain and promote talent.

Most CDOs are struggling to retain top talent due to the competitive labour market and the inflationary economic environment which has caused salaries and total remuneration packages to increase to a level that some struggle to match.

# CDOs are facing a shortage in data skills

CDOs are working to address this challenge by:

## Investing in and promoting skills development

The success of a data team lies in having the right data skills and business domain knowledge.

The CDOs we interviewed highlighted three ways in which they are investing in in-house skills:

- Identifying existing teams and individuals within the organisation who are able and willing to invest in their data skills, whether they join the CDO or stay within their team and act as an advocate.
- Developing innovative recruitment programmes including data apprenticeships / data bootcamps; or through partnering with academia on projects and placements.
- Developing the case for investment in data skills, and strategy to address data skills shortages.

## Retaining knowledge of outsourced work

Data outsourcing is an emerging area and some CDOs expressed concern over the impact of outsourcing on the level of knowledge within their in-house data teams.

The CDOs we interviewed highlighted that:

- Ensuring documentation including detailed instructions, guidance and training is provided by off shore teams when handing over work to in house / on shore teams.
- Reducing reliance on single outsourcing partners for data management activities.

# CDOs are limited by organisational data literacy

Organisations are investing in digital and data transformation, but to achieve the best returns on these investments, colleagues need to know when and how to use data.

## Our perspective

### What is data literacy?

Data literacy is the ability to use data in carrying out day to day tasks. Organisations need their employees to use and interpret data to make informed decisions.

Not all roles must be held to the same standards of data literacy, of course - a CDO does not need to understand all the inputs and outputs of a model in the way that a Data Scientist does. Partly motivated by recognition of this, many organisations are starting to use 'data fluency' in place of 'data literacy' – to emphasise the depth and breadth of data skills needed in an organisation, rather than risk creating or reinforcing a false binary perception of 'data literate' / 'not data literate'.

Data literacy goes hand-in-hand with data strategy and data culture to ensure that the organisation is not only making decisions based on data, but that the information and decisions derived from the data are valid and consistent.



**54%** of CDOs interviewed identified being **constrained by data literacy** as being one of their top three challenges.

## What we heard from CDOs

Improving data literacy is a fundamental priority of CDOs. Without this, an insight-driven culture and digital and data transformations are at risk of incomplete delivery of their potential benefits and overall business case.

Many of the CDOs interviewed acknowledged that they did not know how to best measure data literacy within their organisation, nor what the right levels of literacy for different functions and roles should be.

CDOs acknowledge that this challenge is an underlying factor affecting other initiatives / priorities outlined in this report, for example, embedding analytics into BAU, and is used as one of the drivers for creating the business case for change.

**“We need to think about changing to a culture where increasingly, those people who don’t have data in their job title are able to become much more data led in what they do”**

CDO survey participant, 2022

# CDOs are limited by organisational data literacy

CDOs are working to address this challenge by:

## Upskilling the workforce in data

The CDOs we interviewed highlighted three actions that proved successful:

- Developing and implementing training pathways that encourage colleagues to develop data skills.
- Implementing objectives related to data into the performance cycle, for example identifying and fixing one instance of a data quality problem.
- CDOs also recognised that the business case for change and the data strategy should address data literacy at different levels (from junior to C-level colleagues) and the investment required to improve.

## Embedding data literacy into KPIs

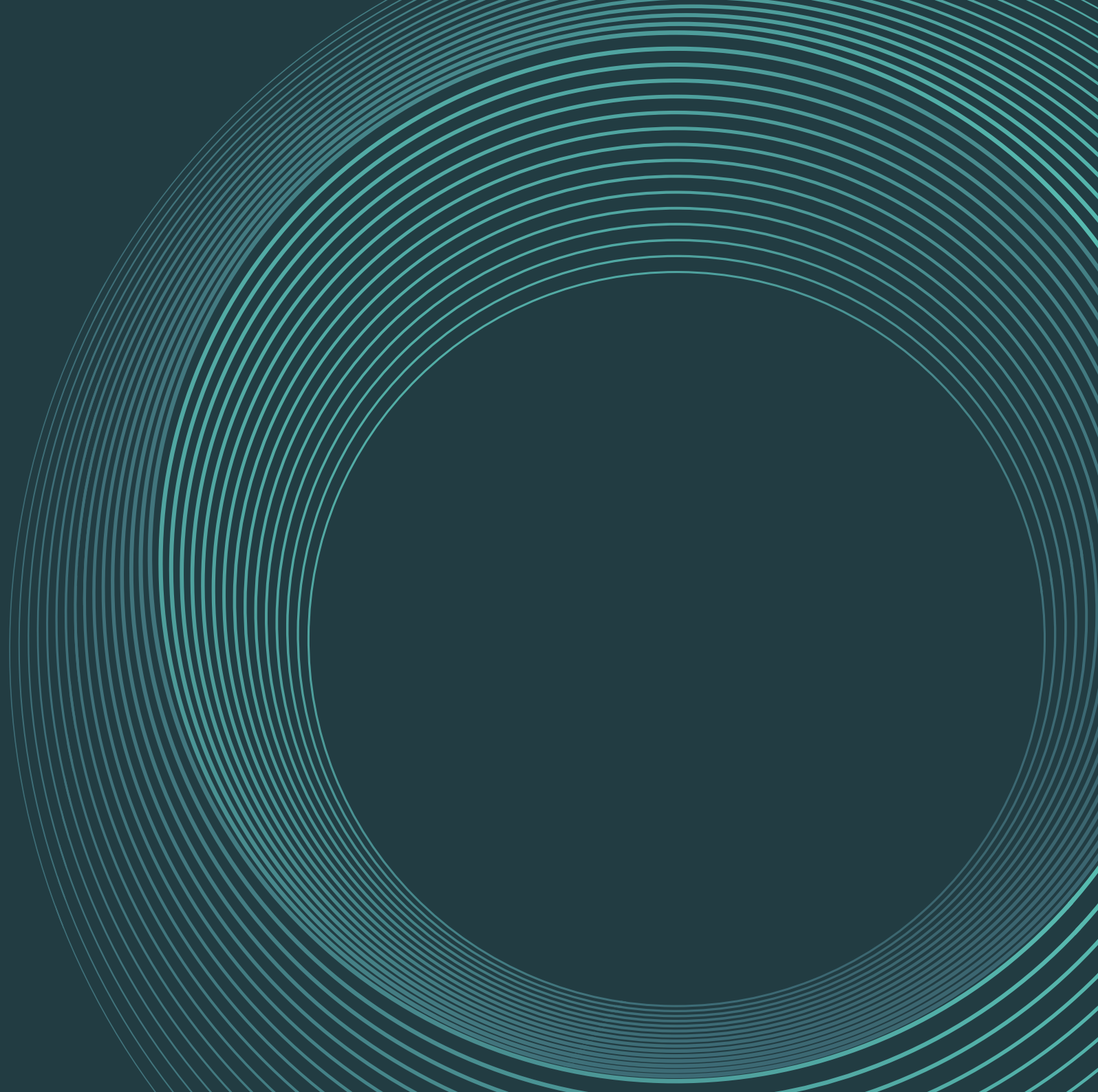
CDOs are looking to embed data literacy requirements into KPIs, objectives and performance evaluations to encourage their organisations to focus on data. As a result, colleagues feel encouraged to seek out training and opportunities to increase their data literacy.

The CDOs we interviewed highlighted the most effective way to structure this was to link performance measurement to data literacy and support for data initiatives:

- Define KPIs for teams and individuals which are aligned with the wider organisational objectives, and focus on enhancement of data literacy and fluency.
- Provide support for and activation of data driven improvement programmes.



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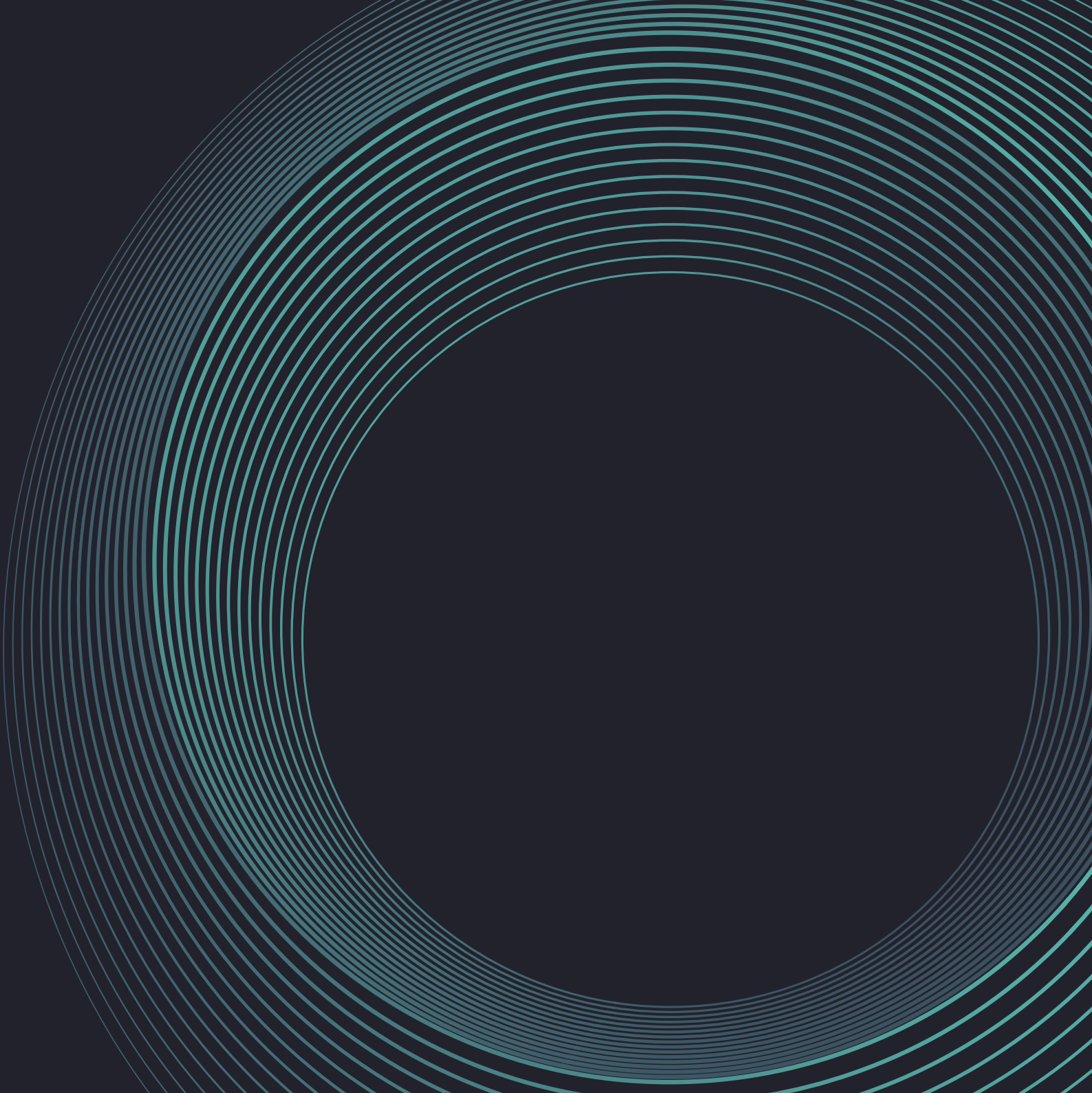
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Get in touch with our experts to discuss the content of this report.

# Appendix



# Survey methodology

**This report is based on series of interviews with CDOs and senior data leaders, completed by Spring 2022.**

We identified a range of CDOs to participate in this research representing all major industry groupings.

These included Consumer; Energy, Resources and Industrials; Financial Services and Insurance, Government and Public Sector; Technology, Media and Telecommunications.

A total of 29 participants were interviewed, most via telephone interviews and some via face to face sessions.

Following the interviews, we analysed the interview transcripts to create a dataset of survey responses.

These were used to identify the trends, observations and insights shared in this report.



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