

The Chief Data Officer dilemma

Balancing governance responsibility with the need to demonstrate value

PwC's 3rd Chief Data Officer Study



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This year has brought **data and modelling to the forefront** of conversations, spurred by a sharp interest in generative artificial intelligence (AI). When we pair the significant developments in large language models and their interfaces with the prominence and scale of cloud technologies, it is clear that we are at an inflection point for consumer adoption of AI in day-to-day life. As a result, companies are revisiting their data strategy, which is considered to be the necessary foundation for AI.

In addition, **many companies are facing market challenges**. This year has been economically challenging across the globe, and uncertainty persists. The PwC CEO Survey^{*} shows that executives are worried about the economic outlook and are expecting business transformation to enable their projected revenue growth. 82% of CEOs are choosing to increase their use of data and analytics technology to help.

We continue **our research** (now in its third year) on the evolving role of the Chief Data Officer (CDO), its prevalence and impact in the market. And we deploy cutting-edge language models to investigate topics commonly paired with the data agenda in annual reports of the world's largest publicly listed companies.

There is a **dilemma** that many CDOs may soon face: they will need to balance their continued responsibility and the requirement for data governance with the pressure to demonstrate value. In established organisations, data solutions typically originate within functions, leaving CDOs with the less exciting responsibilities of data enablement. Unfortunately, many executives do not view these duties as high-return tasks, putting CDOs in a difficult position.

^{*} Source: PwC's 26th Annual Global CEO Survey

Key findings at a glance



1

Data continues to rise onto the executive agenda, tackling the most pressing public issues.

- References to data in annual reports have risen 13% this year.
- The top data topics referenced are “cloud”, “commercial”, “diversity” and “customer”.
- Generative AI has thrown a spotlight on companies’ data and AI strategies.

2

Yet, fewer organisations have a CDO in place, with a slowdown in 2023 hires.

- Reduced CDO numbers contradict companies' public stance on data importance.
- Can this be explained by the hype cycle ending, funding cuts, or market maturity?
- CDOs may face a profession-defining dilemma to show return on investment.

3

The profile of companies with CDOs has shifted to smaller organisations.

- There has been a significant drop in CDOs employed in large organisations.
- The role’s breadth and complexity has often been discussed.
- Could the “hands-on” nature of smaller organisations better suit the CDO role?

4

There is a diverse landscape of data priorities, with no “one-size-fits-all” focus.

- Data is discussed alongside key business topics, varying from region to region.
- Publicly, the data narrative remains defensive – risk and governance, not innovative.
- CDOs must play a role in driving local solutions with a value-driven narrative.

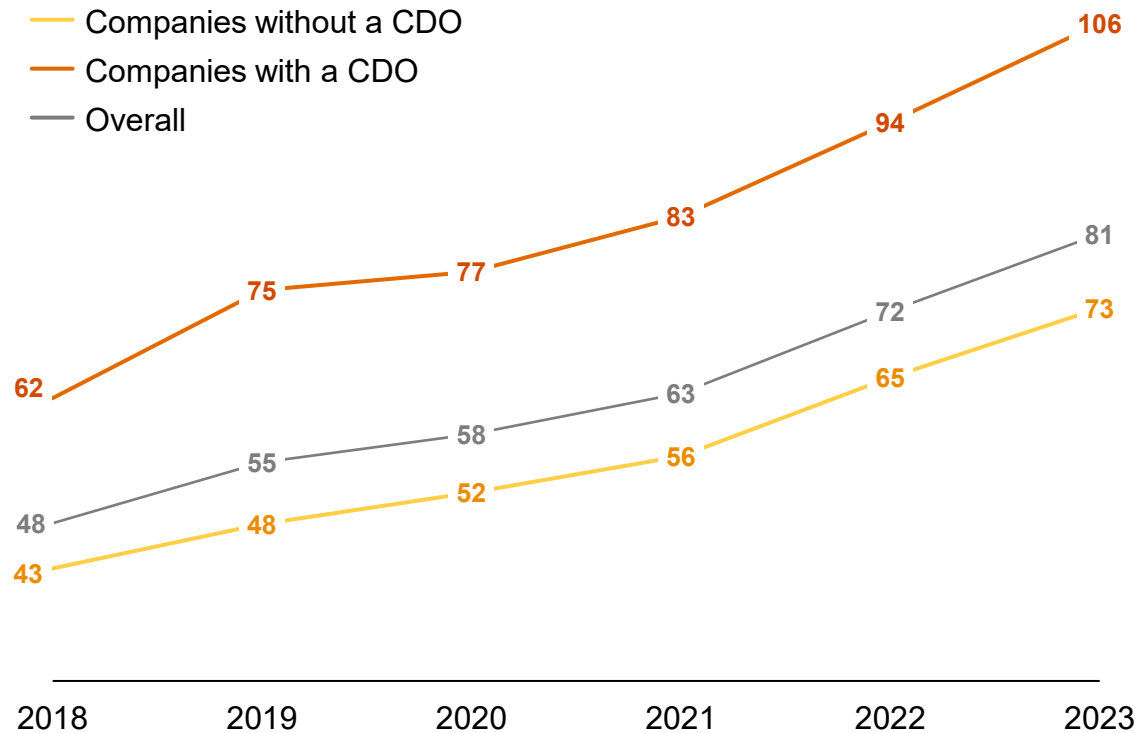


Detailed findings

Data continues to rise onto the executive agenda



Average frequency of references to data in annual investor reports



Data continues to be of growing importance to executive teams and shareholders, with CDOs elevating data into executive discussions.



Annual reports are getting longer, but data frequency has also increased proportionately. This year, data was mentioned 9.04 times per 10,000 words, up from 8.11 times last year (up 11%).



Communicating the value of data through external market pressures is an effective way to build sponsors' trust and showcase its value.

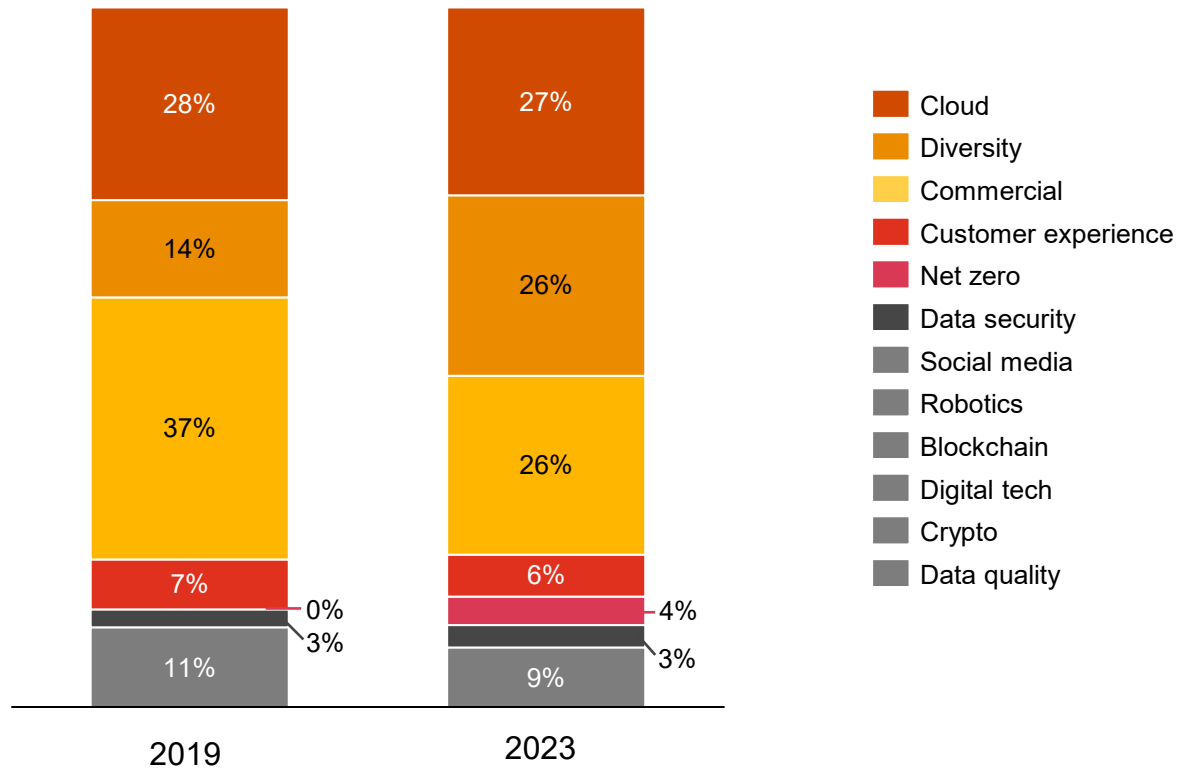


The spotlight on the rapid progress of generative AI models and interfaces, particularly ChatGPT, prompts executives to revisit their data and AI strategies.

Data is intrinsic to many of the most pressing public issues for companies



Most discussed topics alongside data



Companies and CDOs are highlighting the importance of data to investors across a broad range of public issues.

Our language model shows that data is being referenced in conjunction with topics covering business value creation, popular technologies and data enablement.

Leaders are establishing sponsors' trust in data to solve complex business challenges: showcasing data solutions and paving the way for data enablement investment.

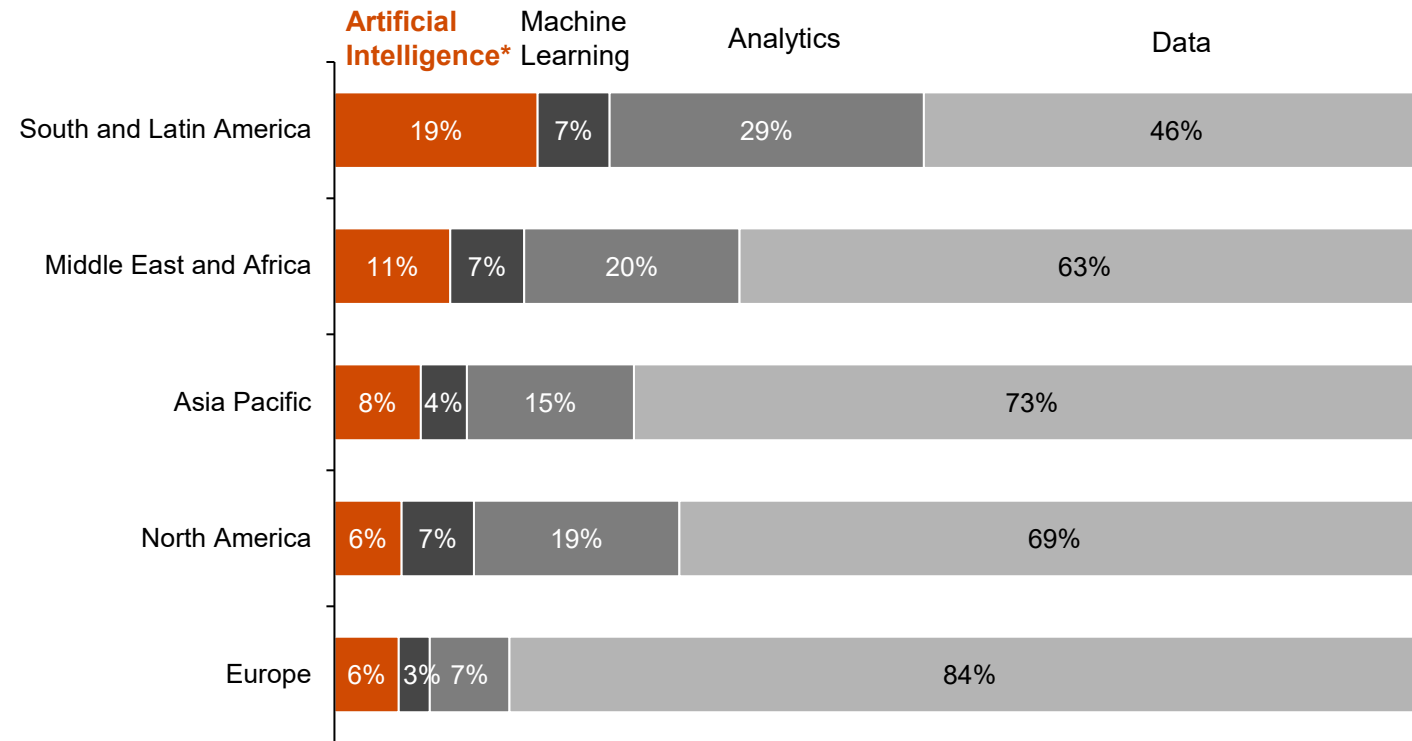


AI is prevalent in executive reports across all regions, albeit to a varying extent

Amid the surge in references to AI within executive reports and everyday discussions, we recognise a gap between the prevalence of data in conversation and the materiality of progress on the ground. CDOs must help turn this potential into reality.

With the North American and European markets leading AI progress, it appears that these markets have gone through the hype cycle and are now past the phase of excessively using AI as a buzzword.

Percentage of references by analysis topic and region

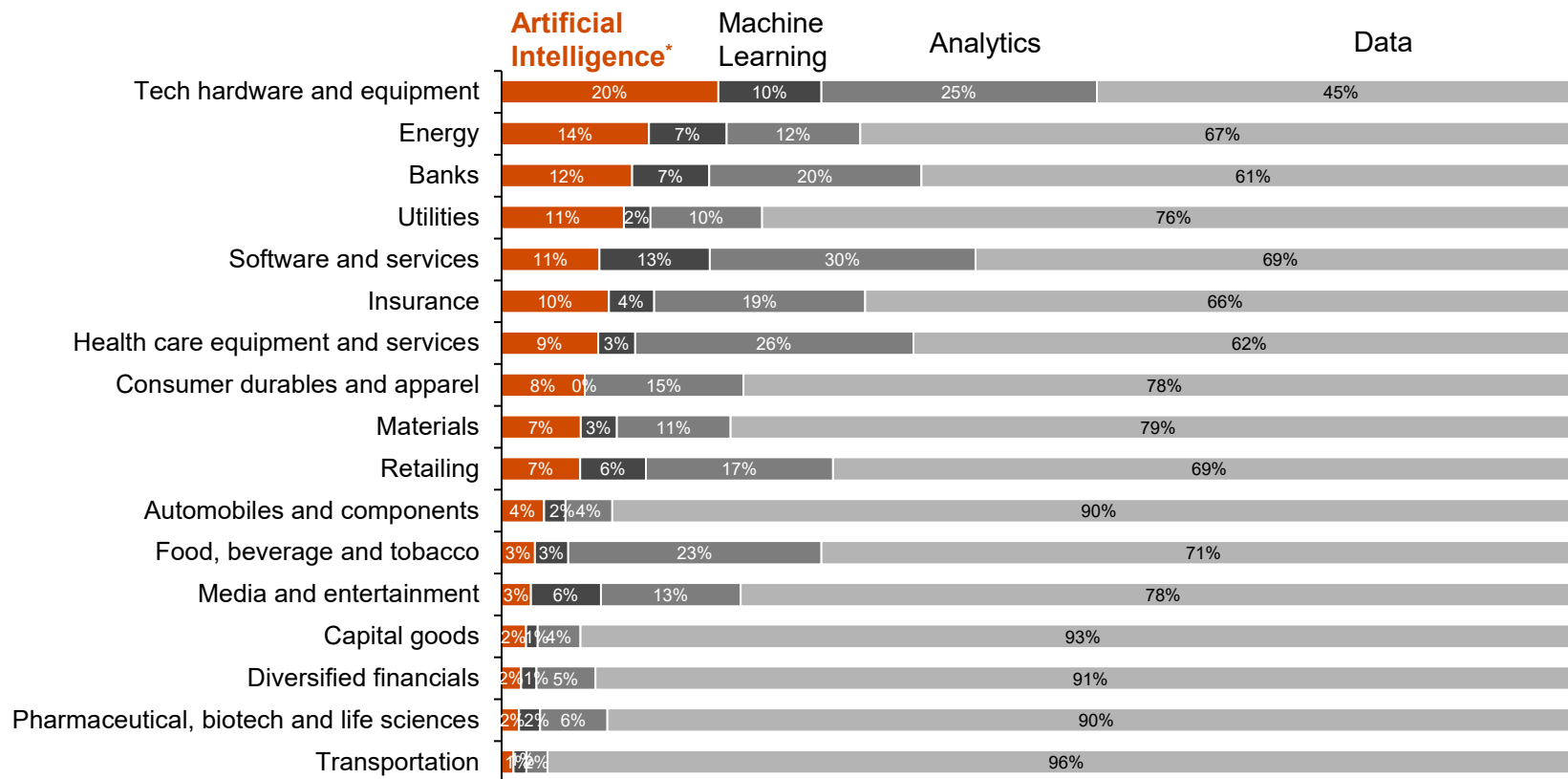


* Note: The data does not include the increasing interest in Generative AI as this years' annual reports were released early summer Percentage values have been rounded for display purposes, as such the total might sum up to a value slightly above 100

The adoption of AI varies by sector, with use case development in its early stages



Percentage of references by analysis topic in the largest industries



It is not surprising that reports from regulated industries have the highest number of references to AI at the moment.

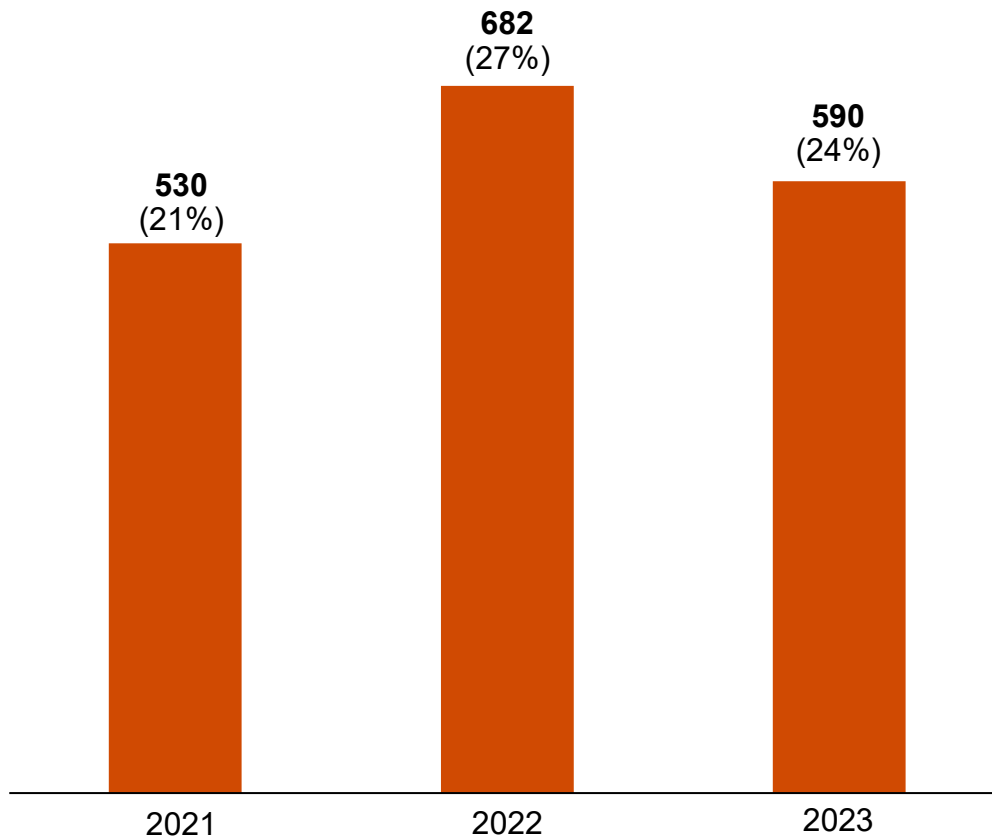
However, since definition and adoption of AI use cases is still in its early stages, it will be intriguing to observe how this trend evolves in the coming months and years.

To make a difference, companies should expedite AI tools into the hands of analysts. Only then will they see rapid proliferation in the use cases identified and progressed in their organisations.

Yet, fewer organisations have a CDO in place, with a slowdown in appointments for this top-tier role in 2023

2

Number and percentage of companies that have a CDO



The juxtaposition with the public interest and focus on data is unexpected. However, we cannot be sure whether this trend is here to stay, or merely a blip in the continued rise of the CDO role.



To speculate on possible explanations: does this show that the hype cycle is over, with CDO responsibilities embedded in other roles? Is it an issue of funding cuts? Or is this a result of market maturity?



Typically, business functions use exciting analytics closer to the market while the CDO focuses on data management, making it difficult for CDOs to show return on investment unless they can transition to contributing more to the value creation agenda.

The hiring rate of CDOs has dropped significantly, from 120 hired in 2021 (at its peak), to only 71 hired this year

2

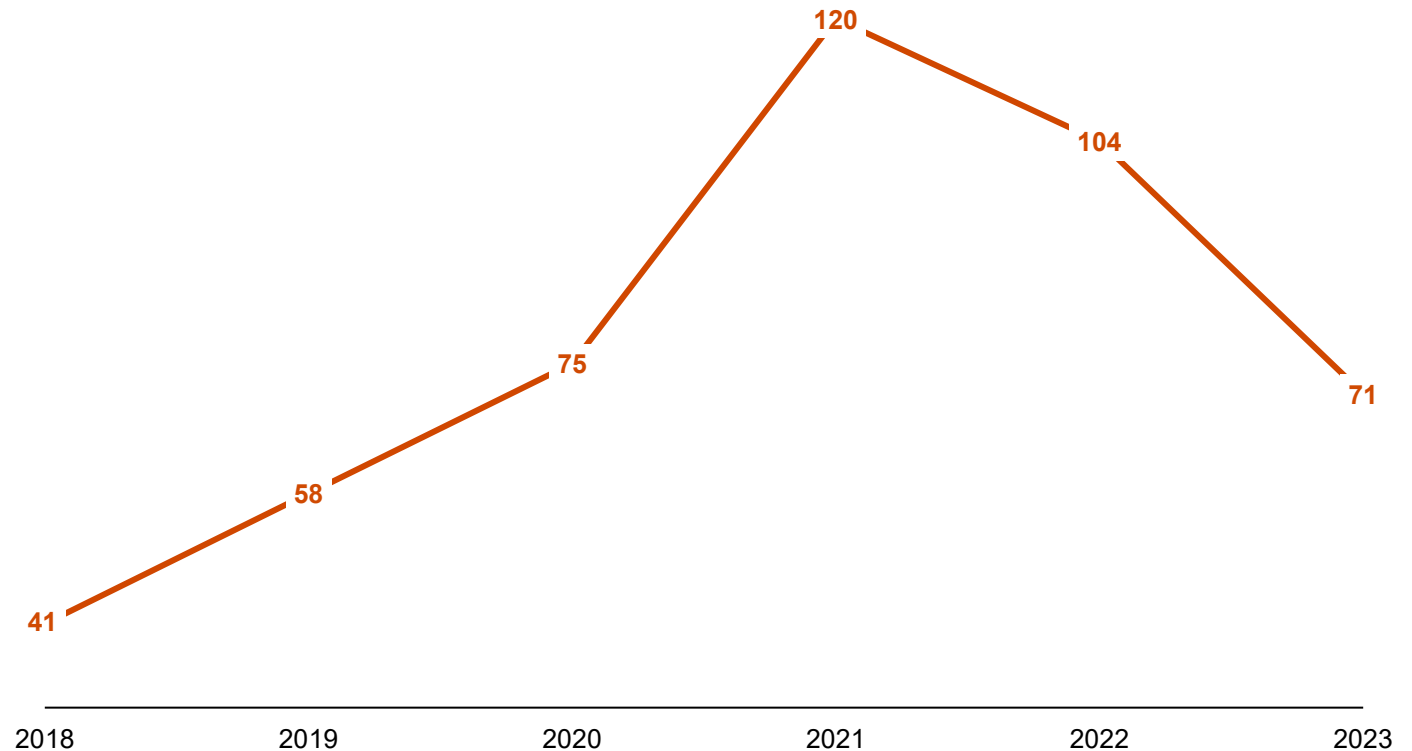
Companies are not only losing CDOs but also not replacing them. Possible explanations include the following:

Hype cycle is over: CDO activities are now being accepted and integrated into data-savvy enterprises.

Funding cuts: We are in a challenging economic climate. Are other roles being expected to take on data responsibilities?

Market maturity: Is it time for a new role to emerge? We have seen “Chief Knowledge Officer” and “Chief AI Officer” to name a couple.

Number of companies with CDOs appointed, by CDO hire year

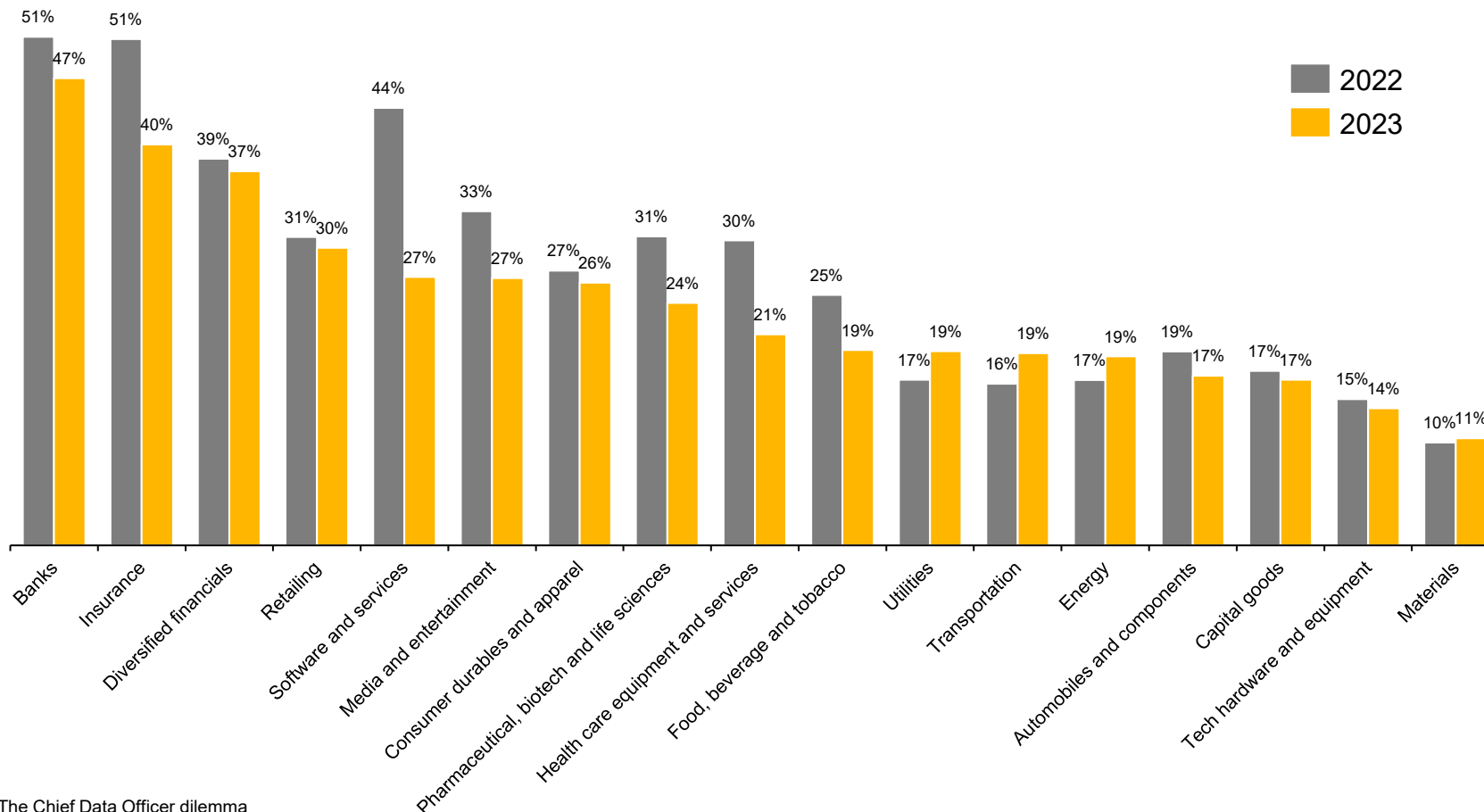


Banking and capital markets continue to have the most CDOs in a market of quick job changes

2



Percentage of companies that have a CDO appointed, by industry



4 years

Average CDO tenure*.

81%

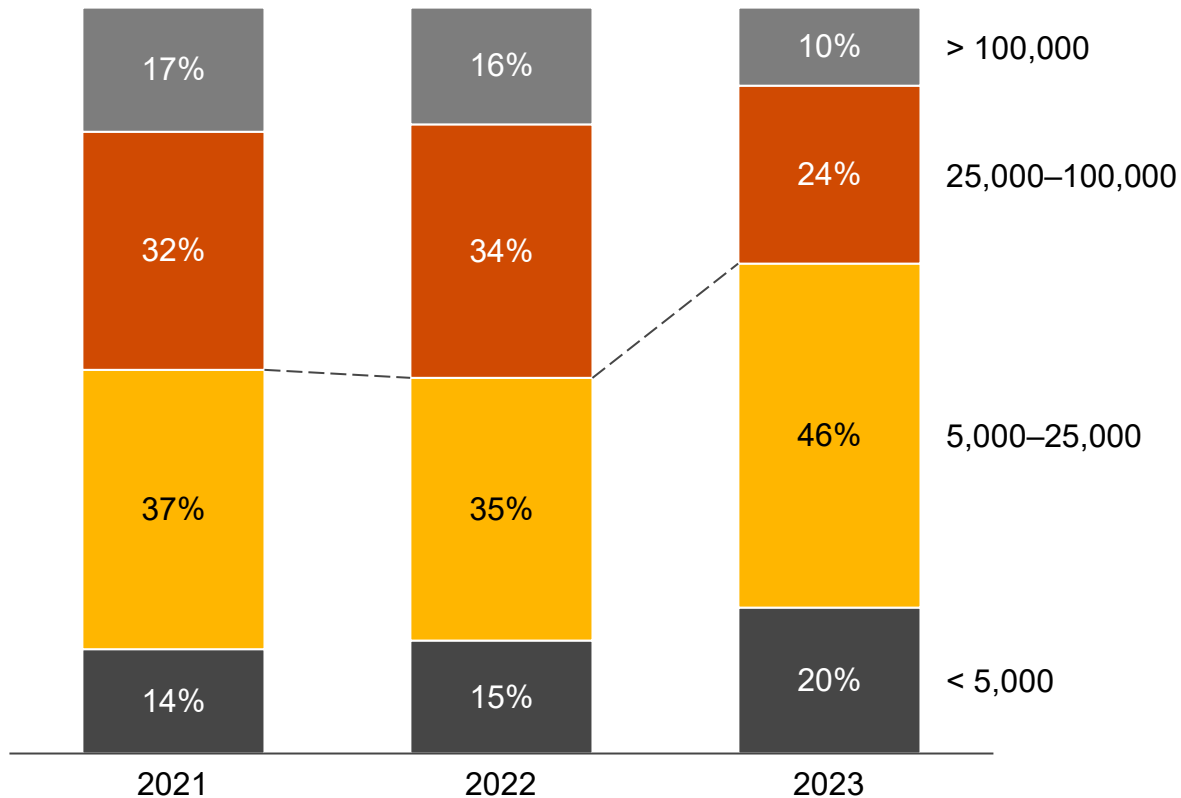
of CDOs have had three or more roles in past five years: fast transitions*.

25%

of CDOs have a secondary role, such as a non-executive position*.

The profile of organisations employing CDOs has shifted drastically, now more commonplace in smaller companies

Percentage of CDOs in companies of different sizes, by employee count



This is a dramatic change from previous results with a significant drop seen in medium-sized organisations with 25,000–100,000 employees.



The CDO role's breadth and complexity have been widely discussed, particularly in larger organisations, where it is often considered too extensive for a single individual to manage.



In smaller companies, having a designated CDO as a single point of contact is appropriate and essential due to the operational benefits provided.



Smaller companies are more “hands on” in using data in operational functions. Could it be that the impact of using data is more visible or easier to showcase in these companies?

Companies in developing regions are still experiencing growth in the CDO role



Percentage of companies with a CDO appointed, by region



The reasons for this regional divergence are not clear. Are developing regions late followers of the hype around CDOs? Perhaps they have had to be more risk-averse in the past and are now in need of someone to get them started on the data agenda?

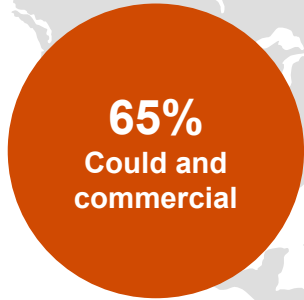
Over the coming years, we will observe if these regions are able to learn from the successes and failures of European and North American companies, or if they follow the same pathway on their data agenda.

Regional variation illustrates that there is no “one-size-fits-all” focus for data, with a diverse landscape of priorities

Regional topics that surpass the global average

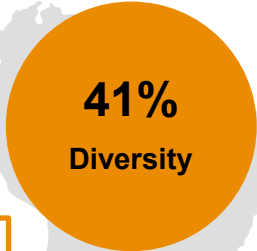
North America

North America’s concentration on cloud technologies and commercial opportunities surpasses the global average by 25%.



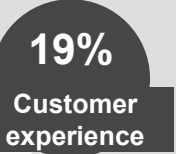
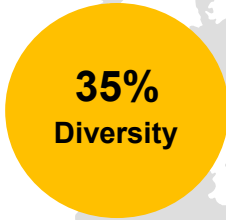
South and Latin America

References to data here focus on diversity, with less interest in cloud technologies.



Europe

There is now a greater emphasis on diversity, which marks a significant increase from only 9% five years ago.



Middle East and Africa

This is the region with the most innovative data sentiment, strongly committed to achieving customer satisfaction.

8%

Digital tech, robotics and blockchain

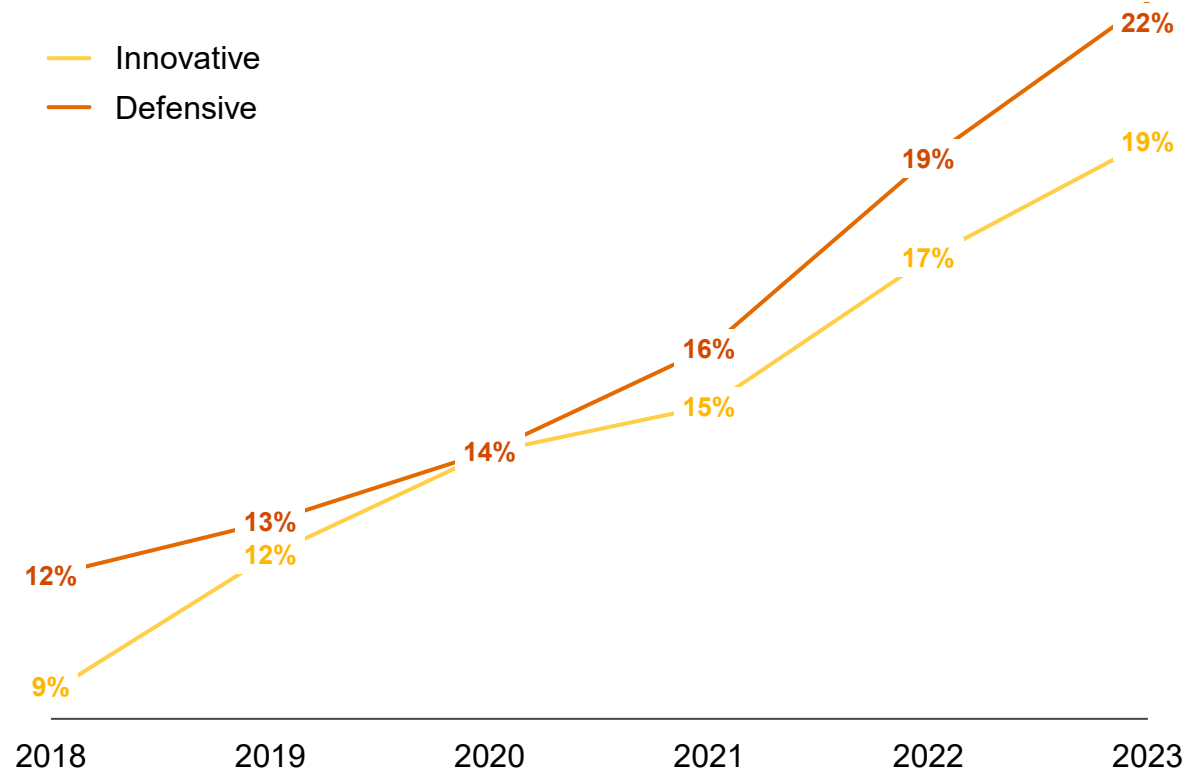
Asia Pacific

8% of references to data appear alongside “robotics”, “blockchain” and “digital tech” – more than in other regions.

Data is surrounded by a defensive narrative with no visible shift to an innovative tone



Data defensiveness and innovation in references to data



CDOs are increasingly required to prove data value. Yet today, companies are still focusing on data defensiveness over innovation.

This may be explained by the growing pressure to ensure a solid defensive foundation for AI success, needing to cater for proprietary and unstructured data not previously a priority.


But to fully harness the potential of data, businesses must find a way to balance their defensive default position with innovation to enable growth. CDOs will play a crucial role in driving this shift to a revised value-driven narrative alongside addressing global and local company data priorities.

To meet today's realities, the role of the CDO will need to evolve, but it remains to be seen how

Data is of ever-increasing importance to organisations and will face increased scrutiny in the coming years as generative AI capabilities continues to develop. A strong data foundation will be essential for organisations looking to reap the productivity benefits of these technologies.

But the future role of the CDO is unclear. Will a new role emerge, such as a Chief Knowledge Officer with a focus on capturing insights from unstructured data? Or could the current role persist but with evolving responsibilities for this new world, which would be seen in new titles such as Chief Data and Analytics Officer or Chief Data and AI Officer?

What is clear is that data leaders must demonstrate their value creation potential to remain relevant in a time of economic uncertainty. Data is helping to address many of the external market pressures that businesses are facing. It is the role of data leaders to highlight the impact that data has on business and turn theoretical conversations into practical actions.



How could a CDO bring value to your business today?



Prioritising data enablement investment?

How do you strategically invest to achieve best-practice outcomes without overspending? Can you aggregate demand across the business to tap into economies of scale or prioritise “bang for your buck” to increase margin and productivity?



Driving innovation and monetisation?

Is data an asset that has made its way onto your balance sheet? Have you got a senior leader advocating for value creation opportunities as well as productivity gains that create a competitive advantage? Are you developing new products and services with data that meet evolving customer needs?



Keeping pace with market developments?

Keeping on top of developments is a job larger than one person can handle. But have you got an experienced voice bringing best practices from the market? Are you staying ahead of the curve when it comes to the emergence of new technologies and data sources?



About this study

The Chief Data Officer Study looked at the world's 2,500 largest publicly listed companies by market capitalization value. We analyzed these companies' corporate annual and integrated reports over a period of six years, using natural language processing and cutting-edge language models to identify topics commonly paired with the data agenda.

For the analysis, the CDO role has been defined based on seniority, role in the organization, and scope of work, rather than just the title set by the firm. Throughout this study, when we say "chief data officer," we mean an individual who has data-focused responsibilities at the C-suite or C-minus-one level—regardless of their job title.

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