The Changing Roles of Chief Digital Officers in a Rapidly Evolving AI Era^

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The role of Chief Digital Officer (CDO) is a comparatively recent one. An analysis of all firms in the US S&P 1500 index between 2000 and 2018 found that CDOs did not appear until 2003 (Kunisch et al, 2022). The emergence of a distinct CDO role has led to the review of early literature relating to it, and the part CDOs have played in assessing the possible contributions of applications of digital technologies and preparing organisations for them (Raković et al. 2022). More recently, survivors of earlier waves of appointment and a new generation of CDOs have encountered the rapid spread of AI adoption, which raises questions about how this might affect their future roles and change their priorities. What new considerations, factors and issues might they need to address? For example, how might AI be used in responses to global risks and existential threats, and could certain applications of AI themselves become existential threats and accelerate others (Coulson-Thomas, 2024c & e)?

Many companies created the position of the Chief Digital Officer (CDO) to remain competitive in what a board and/or CEO perceived as an age of digitalization, and to facilitate digital transformation in and across organizations (Hermes and Riedl, 2022). More recently, CDO roles may now embrace new business and operating models and supply and/or value chains. For those starting out, and apart from resources, talent and a sense of urgency, executive commitment and evangelism, and a company's culture and ways of working were thought by CDOs to be the most critical factors for progress on a digital journey (Egon Zehnder, 2019). Appointments of CDOs have not been limited to large organisations. A study of over two thousand SMEs across 39 European countries has found that the capabilities of CDOs can influence creativity, spark ideas and innovations as well as and while supporting transformation (Scuotto et al, 2024). Their importance reflects that of digital technologies.

Emergence and Possible Evolution of the CDO Role

Given the impact and potential of digital technologies and the growing importance of digital transformation, more organisations are appointing CDOs, a Chief (C) level position focused on the on the development and implementation of their digital strategy (Christofi, 2024). Is the CDO the response to a question from a board or CEO about whether someone should be appointed to instigate, lead, coordinate and/or overview it, or to whom it should be given? A global survey by Egon Zehnder in 2019 found that 84% of CDOs were the first appointees to this role, with a short to medium-term focus on assessing readiness for change and digital transformation (Egon Zehnder, 2019). The significance of the CDO role can depend upon many factors, including the structure of an organisation and the allocation of roles and responsibilities within it (Höhener, 2024). This article poses some questions that entities and their CEOs and boards might wish to consider in relation to the evolution of CDO roles.

A 2022 survey of academic literature found the strategic management of changes to be the most frequently cited reason for hiring a CDO, digitalization and the implementation of

digital transformation was the most frequently mentioned CDO task, and strategic and business-oriented thinking was the most frequently mentioned CDO requirement. (Hermes and Riedl, 2022). While a chief information or data officer might sometimes head a unit within a functional silo, a CDO often requires a company-wide perspective to foster and coordinate cross-functional collaboration in the adoption and application of digital developments and technologies, which often requires both specialist and generalist awareness and skills (Kunisch et al, 2022). This wider perspective, which is also required by chief financial officers (CFOs), positions the CDO to potentially play a wider ranging and more strategic role within a senior management team and/or the C-suite community.

CDOs and companies that select and appoint them may have different views of what their role ought to be (Kunisch et al, 2022). How these views could evolve in what might be termed the AI era could depend upon various factors, including situation, circumstances and context. While focused on corporate transition and transformation journeys, CDOs along with directors may also be involved in corporate responses to emerging and persisting global risks and existential threats (Coulson-Thomas, 2024b & c; WEF, 2024b). What changes, developments and trends in the situations and contexts in which they operate might most affect CDOs and corporate activities and plans? As catalysts of change, CDOs can already influence a variety of corporate outcomes (Kunisch et al, 2022). What further outcomes and corporate responses might CDOs now increasingly be required to impact? To whom should they report and be accountable and what should their relationships be with boards and the Chief Executive Officer (CEO)?

CDO, Board and CEO Relationships

First generation CDOs felt that digital transformation should be a priority for boards, and that boards needed to better understand it and should spend more time with and communicate directly with them (Egon Zehnder, 2019). Many boards spend much of their time on traditional oversight activities, with emerging technologies, including AI, and cyber risk making ever larger claims on the time of many of them (Heidrick and Struggles, 2024). More boards are also using advisory committees, external advisers and other mechanisms to access a wider range of expertise (Heidrick and Struggles, 2024). CDOs may wish to consider what advisory, or other arrangements would help them to keep track of developments in digital technologies and their adoption, deployment, monitoring and governance. How might boards and executive colleagues be kept abreast or rapidly evolving technologies?

Given the potential strategic significance of digital strategies, investments and applications CEOs can play an instigating and guiding role, and the relationship between a CEO and CDO can be an important one (Hess and Sciuk, 2022). CDOs themselves identify the CEO role as a natural progression for them (Egon Zehnder, 2019). Climate change and technological disruption have been identified by CEOs as two megatrends (PwC, 2024). There are many areas in which AI applications might be helpful to those in leadership positions in the public, private and voluntary sectors and the professions for supporting decision-making on these and other issues, information and data analysis, consolidation and/or presentation, improving

efficiency and monitoring, and risk analysis and management (Chapman, 2023). CDOs could have a role in helping to ensure that data for AI applications is clean, ethical and 'AI ready'.

Case studies suggest the CEO may set the vision and strategic guidelines for digital transformation and be actively involved in the transformation process, often leading it (Hess and Sciuk, 2022). The realisation of guidance and implementation of principles established by a CEO may be the responsibility of a CDO who might in addition drive certain projects (Hess and Sciuk, 2022). Case studies have also shown that close coordination between the CEO and the CDO is a basic prerequisite for managing digital transformation in a targeted manner (Hess and Sciuk, 2022). It is important to ensure that the existence of a CDO does not result in senior colleagues abdicating their responsibilities to contribute to digital technology adoption and implementation. CDOs feel that CEOs need to make sure that other senior executives do not leave digital transformation to a CDO (Egon Zehnder, 2019).

CDO and CIO Relationships

AI and many other applications are dependent upon information and thrive on data. Their usefulness, contribution and value can greatly depend upon the availability, quality and relevance of the data upon which they are trained, and to which they subsequently have access. The relationship between a CDO and Chief Information Officer (CIO) can also be an important one. The origins of both positions lie in information networks which have long existed, and more recently been impacted by digitisation and the drive to analyse, process and share larger quantities of data and information (Harari, 2024). The roles of CDOs and CIOs are not always complementary and harmonious, and when there are tensions between them consideration may have to be given to a unified or unifying role (Lorenz and Buchwald, 2023). The CDO is predominantly seen as a digital strategist, whereas the CIO could be viewed as the person responsible for the IT infrastructure (Hermes and Riedl, 2022).

In an exploratory interview study, individuals with leadership roles in digitalization in higher education were interviewed to examine role design, particularly in distinction from Chief Information Officers (CIOs) and executive board members for digital transformation (Auth and von der Heyde, 2022). The commonalities found across the eight interviews allow for a university-specific definition of the CDO role. Research is still needed as to how the effectiveness of this organizational anchoring of the task will be evaluated (Auth and von der Heyde, 2022). Recommendations have been formulated based upon the review of literature mentioned earlier for decision-makers who want to get an overview of the possible establishment of the CDO position and its alignment with a CIO role (Hermes and Riedl, 2022). Roles and responsibilities may evolve in response to changing priorities and concerns.

CDOs and Contemporary Concerns

Sustainability ought to be a concern of many boards and CEOs as current human activities and lifestyles are not sustainable. Despite being strategically relevant and priorities, digital and sustainability transformation are often pursued separately as interplays between them can be multilayered and complex (Kurpick et al, 2023). A CDO might be able to help the CEO to ensure that each takes account of the requirements and impacts of the other, and a company

adopts a more integrated approach. According to a study in the Philippines, a lack of infrastructure, data, management support and adoption strategy, customers privacy and security concerns, and legal framework deficiencies may all limit the use of AI to enhance sustainability in SMEs (Hernandez et al, 2023). While there may be hindering factors, there might also be helping ones, and opportunities to use AI in MSME ESG and, particularly, sustainability reporting have been identified (Kulkarni et al, 2023). However, CDOs should perhaps question the sustainability of the voracious energy demand of data centres required by some AI and Generative AI applications.

Experience with earlier digital technologies may have prepared some CDOs for the crises and disruptions that can arise when applications encounter problems or breakdown. The possibility of a collapse may accompany the adoption and use of AI models (Shumailov et al, 2024). CDOs may also need to be increasingly prepared to support corporate and local community responses to extreme weather events. Recent events in Valencia suggest citizens may be left to their own devices in certain climate related situations. Cyber-crime is another area of contemporary and anticipated future concern (WEF, 2024b). International criminal groups and bad actors are also using AI to facilitate cyber and other attacks. The Secretary General of INTERPOL has warned against the prospect of losing the battle against organised crime as international gangs employ the latest technologies more quickly than law enforcement agencies can use them to respond (Stock, 2024).

Across public sectors AL, blockchain and other digital technologies and smarter processes are being adopted and applied to administrative activities to meet the expectations of citizens rather than customers, and collaboration may be easier where competitive pressures are not present (Schachtner, 2024). Generative AI has increased the range of possible applications, risks and safety and security concerns that a CDO may be expected to consider and might need specialist advice on (GOS, 2023; HM Government, 2023). Emerging technologies also raise a host of ethical concerns, and these can arise because of applications within supply and value chains and collaborative networks (Blackman, 2023). The extent to which AI itself is now recognised as an existential threat is reflected in the establishment by the UN of a Global AI Ethics and Governance Observatory (Ramos, 2024). This is an arena in which CDOs may need to become increasingly involved in monitoring, advising and ensuring compliance.

CDOs, Global Risks and Existential Threats

In response to multiple and inter-related global risks, CDOs may need to address a wider range of risks as organisations and their boards and senior management colleagues become more engaged with their management (Heidrick and Struggles, 2024; WEF, 2024b). There are also looming existential threats to consider, one of which is global warming and climate change (Coulson-Thomas, 2022, 2024a, c & f; WMO, 2040b). Global temperatures have recently been at record levels (WMO, 2024a). The United Nations Environment Programme's 2024 Emissions Gap Report warns that current policies are likely to result in a 3.1 degrees C rise in temperature before the end of the century, which is above the level that is likely to trigger remaining tipping points after which global warming will be unstoppable (UNEP, 2024). Ever more people are becoming aware of the possible and expected

consequences as extreme weather events increase in frequency and severity. Larger uncontrolled migratory flows from areas that are stressed or becoming unsuitable for habitation are also likely (IOM, 2024).

The IPCC has reached agreement on the outlines for a Special Report on Cities and Climate Change (IPCC, 2024). Where individual and lifestyle responses, as well as corporate and organisational reactions are required, more account may need to be taken of community and societal use of social media and involvement with frontier digital developments. Technologies are merging and present attention and engagement, as well as availability and governance, challenges as more people move or retreat into virtual worlds (Dowson, 2024). Have ecological damage and climate change resulting from human activities progressed too far for current lifestyles to be maintained (McChrystal, 2019)? Whatever is being done within individual organisations is currently not enough (IPCC, 2023; UNEP, 2024; WEF2024b; WMO, 2024b). Collaboration, cooperation, joint action and collective responses are increasingly required (Coulson-Thomas, 2024a, d, & f).

Given vulnerability to one or more existential threats, should some boards consider the sharing of information on a changing situation and how best to monitor and respond to certain challenges (Burns and Moore, 2024)? More CDOs may be required to support wider and collective responses to global challenges and existential threats such as climate change. These might encounter interface and compatibility issues and create additional cyber security risks (Coulson-Thomas, 2024b). Engagement with local communities and major players within cities might also be required. Urban areas pose multiple dilemmas. They are both adversely affected by climate change and important sources of greenhouse gases. While there may be nature-based, technological, social, and integrated solutions, these can involve coordination, integration is often complex, and adoption and implementation may require time, community engagement, government support and awareness raising (Tang, 2024).

Beneficial and Unwelcome Impacts of Digital Technologies

Boards and CDOs may have to address and respond to unexpected and unwelcome as well as hoped for and beneficial impacts of digital technologies. AI could have a significant impact on our individual, corporate and collective futures in ways that could be positive or negative (Kissinger et al, 2021; Coulson-Thomas, 2023; DSIT, 2024; Harari, 2024). Venders and enthusiasts are generally positive, as are those who do not wish to be left behind and lose competitive advantage. Generative AI can be used to boost productivity, competitiveness and growth (Roark et al, 2024). In one survey 60% of CEOs expect Generative AI to create efficiency benefits (PwC, 2024). CDOs can play a key role in their realisation. At the same time, digital technologies and infrastructures are rapidly using up natural capital and increasingly rare minerals that will be needed by future generations. As already mentioned, AI and other applications and practices are prodigious users of energy and rapidly increasing global emissions of greenhouse gases. In addition to other impacts, climate change has been recognised as the biggest contemporary health threat (Litke et al, 2024).

Extreme heat threatens human and many other life forms and ecosystems (Goodell, 2023).Those who are better informed about the nature and consequences of climate change are more likely to recognise its harmful health impacts, prioritise climate action over economic growth and act on climate solutions, and less likely to agree that the costs of acting on climate change are too high (Bliss et al, 2024). In this arena, CDOs can contribute to increasing understanding of both responsible and beneficial applications of AI and digital technologies and the negative externalities of their irresponsible and harmful adoption and use. Some will find it easier than others to handle contradictory requirements, conflicting views and the pressures of advocates and lobbies seeking short-term advantage.

CDOs may find that doing the 'right thing' for the environment, society and future generations in areas they might be able to influence may be unpopular with colleagues and vested interests, even though an organisation's official pronouncements support UN sustainable development goals. Boards and senior executives might not be ready to make difficult choices and decide what to give up, and whose interests to ignore or override in order to achieve better collective outcomes (Head, 2022). Increasingly, AI generated or assisted content may influence perceptions and understanding of climate change. While past ChatGPT narratives on climate change have been found to be in line with scientific understanding and recognise the impact of human activity as a cause of global warming, questions may remain about how the role of fossil fuels might be portrayed as the tool continues to learn, including from biased content (Sommer and von Querfurth, 2024).

Areas of Uncertainty for CDOs

Humans and deep fakes may become ever more difficult to distinguish, with consequences for misinformation, disinformation and fraud, while a merging of human and AGI may increase susceptibility to manipulation (Dowson, 2024). Are directors curious, open-minded and ready to learn, explore and engage? Will they adapt to accommodate digital support? Have boards recognised potential risks and downsides, and the possible use of the same or modified technologies by bad actors (DSIT 2024; Shadbolt, 2024; WEF, 2024b)? Much depends upon the nature of an entity, its purpose and stage of development, the selection of directors, and their aspirations, commitment and development to remain current and relevant. An Indian study has found that increased digital literacy and technological proficiency among SME board members and decision makers may enable corporate governance arrangements to better match Industry 4.0 requirements (Dhone and Perumandia, 2024). How might they become better enablers of creativity, imagination and responsible innovation?

Governance arrangements sometimes create a potential that is only realised through what directors and boards do and how they handle uncertainty. How might CDOs better help and support them? Boards with the same or a similar governance structure may display very different aspirations, perspectives and behaviours. What priority are boards putting on progress towards 'net zero' sustainable development (NZSD) goals and their achievement? In many cases, is it enough and what should the next steps be? Are CDO aspirations, perspectives and priorities for the adoption and application of digital technologies aligned with those of a CEO and board? What roles can boards, CEOs and CDOs play in reducing

uncertainty and ushering digitalization in areas such as AI, machine learning, blockchain, the metaverse, and/or augmented reality with an effective cloud data governance framework? Whether these technologies help or harm us can depend upon how they are used, by whom and for what purpose, and how we interact with them. Our respective futures could be intertwined (Harding, 2024). Should CDOs encourage reengagement with the real world?

According to a scientific report published ahead of 2024 AI Seoul Summit, expert opinions differ on the pace and direction of general-purpose AI development, progress on fundamental challenges such as causal reasoning, and whether there will be a loss of human control (DSIT, 2024). How aware are boards, CEOs and CDOs of the ethical challenges and cyber and technical risks of AI adoption (Shadbolt and Hampson, 2024)? What direction can and should be provided in the face of a wide range of views and uncertainty about the impacts and consequences of possible technology and software development paths? Uncertainty can be intentionally created to unsettle and inhibit. Organisations and their CDOs are confronted with state as well as non-state actors. For example, the Russian Federation has been waging an information war and sabotage operations across Europe in its attempts to undermine western democracies and their support of Ukraine (Burns and Moore, 2024).

Emerging Concerns About Certain Technologies

The future reputations and standing of CDOs may be bound up with those of the technologies and their applications which they are held responsible for. AI applications and systems themselves may not be resilient. Over time as more and more of the data on which an AI model or application is trained is itself generated by previous generations of the model, or it's applications, might this lead to the collapse of the model (Shadbolt, 2024)? AI models can fail, and AI applications can hallucinate. Models can produce gibberish when they are trained on synthetic AI generated data, as errors accumulate and/or are amplified (Shumailov et al, 2024). Improving our collective understanding of the capabilities and inner workings of general-purpose AI systems, associated risks and their mitigation should be priorities (DSIT, 2024). Is this possible, especially at the top with the current age composition of many corporate boards? How might it best be achieved? What should CDOs do to alert and warn when colleagues are gung-ho to proceed and fixated on anticipated benefits.

Cyber risks remain highly ranked in terms of their likely impacts (WEF, 2024b). The adoption of digital technologies and greater interconnectedness are increasing the vulnerability of many organisations to cyber-attacks (Coulson-Thomas, 2024b). At what point might a combination of AI and quantum computing enable bad actors to overcome encryption? How might communications and transactions then be protected? Often many companies are reacting to challenges and need to take a more strategic approach to cyber security (Gaillard, 2024). Is this where a CDO should be involved? Despite fears surrounding emerging AI technologies, CEOs know their businesses should be investing in them to stay competitive. Work arrangements, patterns and practices should be inclusive, sustainable and compatible with available digital technologies and could be constrained by them (Kraus et al, 2023). CDOs should monitor work related trends and evolving requirements and preferences, keep affordable options open and explore, create and support further possibilities.

Concerns about rising energy and resource requirements and 'rare earth' mineral constraints are resulting in renewed emphasis upon effectiveness and efficiency. While there are both accelerators and inhibitors, global generative AI momentum has created a renewed focus on productivity (Kumar S, 2024). A Cognizant survey of 2,200 executives across 23 countries and 15 industries has found that enhancing productivity is the greatest strategic priority for generative AI adoption (Cognizant, 2024). CDOs may need to give more attention to supporting the responsible prioritisation of productivity IBM's 2024 C-suite Study, which surveyed more than 2,500 CEOs from 30-plus countries and 26 industries found more than two-thirds felt the potential productivity gains are so great that "they must accept significant risk to remain competitive" (IBM, 2024). Will fears of being left behind overcome risk aversion? Should CDOs become more involved in discussions of risk appetite?

Coping With Concerns and Influencing Applications

Thoughtful and responsible CDOs may keep an eye upon who benefits from the adoption of the digital technologies they are assessing and introducing into organisations. Past generations of technologies have often initially greatly benefited a favoured few rather than the great majority of people (Acemoglu and Johnson, 2023). Given their rapid development, might the frontier of development move on before a wider dissemination of benefits can occur? Could this widen the gap between digital 'haves' and 'have nots'? A CDO concerned with a more equitable distribution of benefits, or the adoption of more advanced digital technologies in certain locations, may have to first address infrastructure limitations (WEF, 2024a). Is there a corporate conscience, fairness or inclusiveness role for CDOs in relation to digital technology adoptions and applications and the selection and timing of projects?

While most global businesses are seeking productivity gains with their use of generative AI, the end goal is often less about cost-cutting and more about fuelling growth, and inhibitors like talent acquisition, technological infrastructure, consumer perception and the perceived immaturity of current generative AI solutions threaten to stand in the way (Kumar, 2024). CDOs may have an important role to play in recruiting and developing digital talent and ensuring that technologies and applications are adopted when they are fit for use. Three quarters of businesses surveyed by Cognizant were looking to create new income streams, which suggests a focus upon revenue growth rather than the reduction of negative externalities or progress towards net zero (Cognizant, 2024). Strategies to increase successful adoption of generative AI include ramping up a new talent strategy, shoring up consumer trust and boosting technological infrastructure and organisational agility (Kumar, 2024).

CDOs could seek to influence and/or steer policies and priorities. Will future exponential improvements in the performance of AI bring us closer to singularity and a merging of AI and human intelligence that is also available to bad actors ((Kurzweil, 2024)? Should CDOs warn about and be alert to the misuse of digital technology as well as advise on its beneficial use? Might CDOs have to forge new relationships with the people of organisations and the human resources community? How should boards and corporate governance handle the ethical, security and other challenges of an unprecedentedly wide spectrum of potential benefits and possible negative consequences? As the number and ferocity of extreme weather

events and heatwaves increase, the World Meteorological Organisation stresses the importance of providing early warning and guidance in communications on practical steps to take in order to cope (WMO, 2022). CDOs could play an important role in ensuring that organisational networks are plugged into alert and early warning arrangements and able to communicate quickly and effectively with those most likely to be affected.

While CDOs might be expected to focus upon internal needs and digital related challenges and risks, they should not lose sight of other categories of risk, external and global risks and existential threats (Coulson-Thomas, 2024a). For example, pandemic risks are ever present as human populations increase, travel and encroach on further ecosystems and the habits of other species (Coulson-Thomas, 2024f). New and more virulent strains on one location have the potential to spread elsewhere and adequate supplies of relevant vaccines may not be quickly available where and when they are most required (Sullivan, 2024). Pandemic impacts could affect general populations, workforces and a CDOs own specialist team, adding to vacancy and specialist talent concerns. Responses involving cooperation and collaboration might also lead to further cyber risks. CDOs could have an important role to play in enhancing resilience and technology support of contingency planning and crisis preparedness.

CDO Expectations and Impacts

CDOs themselves may have expectations of their roles, required relationships and desirable support, and others including both internal and external stakeholders may have expectations of them. Their contributions and impacts will reflect the situations, circumstances and contexts in which they operate and how the digital technologies they are concerned with are adopted and evolve. One study of the CDO appointments of 158 S&P 500 firms from 2002 to 2019 found that that they do help improve 'forward-looking firm performance', measured in terms of Tobin's q (Wei et al, 2024). Performance improvement was more pronounced when the CDOs were externally hired rather than internally promoted, and when they were generalists with overall responsibilities, rather than specialists focusing on an explicit functional area. While appointing a dedicated CDO to lead digital transformation and improve a firm's performance was found to be important, the effectiveness of a CDO appointment was dependent on how it was made (Wei et al, 2024).

Organisations seeking a CDO might wish to check the experience a recruiter or head-hunter has had in filling CDO positions, and CDO succession planning is recommended. Overall, the role of CDO is likely to widen and become more demanding. As new and more advanced digital technologies and generative AI applications are introduced a CDO may encounter bias, prejudice and polarised opinions and strong for and against views among key and influential players within an organisation. Their positions may reflect uncertainties and differing external assessments and might not change and soften after more experience of early adoptions (Turel and Kalhan, 2023). CDOs may also encounter more unintended consequences of applications, activities and aspirations for which they are held responsible. For example, connectivity sometimes, and in certain areas, leads to dependency which can be exploited and lead to conflict (Leonard, 2021). CDOs should be alert to differing intentions.

How CDOs are perceived, treated and valued by others, and the extent to which they are trusted, may reflect the views which people have about the digital technologies with which they are associated. Could they earn trust by influencing how AI and other applications of emerging technologies could and should be developed, applied and monitored to avoid the most harmful outcomes and/or how they are designed and deployed to protect an organisation's people, wider communities and a corporate reputation (Blackman, 2023)? A CDO could also endeavour to ensure that applications of AI do not allow users to learn how to systematically discriminate against certain characteristics or communities. Anticipation, awareness, vigilance and sensitivity to areas of possible misuse, misinterpretation and abuse could be helpful when monitoring the consequences of application use.

Future Corporate, Public and CDO Priorities

The UN Brundtland Commission defined sustainability in terms of meeting the needs of the present without compromising the ability of future generations to meet their needs (Brundtland Commission, 1987). Humankind currently faces multiple and inter-related global risks and approaching, emerging and growing existential threats resulting from our collective corporate operations and the aspirations and lifestyles of our expanding human population which are not sustainable (Coulson-Thomas, 2022, 2024a & f; UNEP, 2024; WEF, 2024b). Combinations of looming threats, with extreme weather and other events resulting from them occurring together, threaten to overwhelm multiple entities, government agencies, public bodies, infrastructures and emergency services. Requirements to adapt, cope and respond, including the pursuit of affordable, responsible and sustainable alternatives, possibilities and/or substitutes are likely to become higher CDO priorities.

To address challenges, global risks and existential threats and seize, and/or support the pursuit of related opportunities organisations, boards, directors and CDOs and executives with advisory and/or enabling roles must first understand their common features, requirements for effective responses, and the obstacles that may be encountered and how these might be overcome (Coulson-Thomas, 2024a and d). Too many boards just focus on risks and challenges facing the entities for which they are responsible and global risks and existential threats in the international contexts in which they operate are largely ignored (Coulson-Thomas, 2024a). When already humanity is not doing enough to ensure its own survival, the consequences of this internal focus could be catastrophic. CDOs need to play their part in encouraging and supporting a wider focus on the environment and external contexts, cooperation and collaboration with a broader range of people, organisations, interests and stakeholders, and operations and activities in harmony with the natural world.

Note: This article draws upon sections dealing with digital technologies and AI in the author's Theme Paper for the 2024 London Global Convention on Corporate Governance and Sustainability organised by India's Institute of Directors.

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Abstract

Chief Digital Officers (CDOs) are a relatively new phenomenon. They continue to be appointed, and their role is evolving as digital technologies develop and AI applications multiply and present new challenges and opportunities. The CDO role is a strategic one, depending on the situation, circumstances and context. It involves a relationship with boards, CEOs and others with whom expectations and priorities should ideally be aligned. There are questions to ask and issues to address in relation to CDOs and these relationships, the evolution and future of the CDO role, and contemporary and emerging concerns, global risks and existential threats with which CDOs may become increasingly involved. The reputations and standing of CDOs reflect those of the digital technologies and applications for which they are held responsible, and which can have beneficial and/or unwelcome impacts. CDOs face areas of uncertainty with which they must cope while seeking to influence. In future, CDOs may be required to devote more attention to sustainability, resilience, the responsible use of technology, the external context within which they operate, preparation for various scenarios and eventualities, and collaboration, cooperation, joint action and collective responses.

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