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Sustainability as the CDO/CIO's agenda



Foreword



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The value created by a company today is directly determined by factors which are being increasingly impacted by climate change. In this scenario, sustainability has become a key indicator of progressive and responsible business practices. Digital technology is a major driver and disruptor which can help businesses realise their sustainability goals effectively. Integrating ESG principles into digital strategies is thus a necessity and a strategic imperative. In these times of ongoing digitalisation, chief digital officers (CDO)s and chief information officers (CIOs) can play a decisive role in empowering organisations to attain sustained growth outcomes and enabling the development of new business models. As the global landscape shifts towards ESG accountability, businesses need to identify the right means to innovate sustainably, ensuring that they thrive amidst evolving regulatory landscapes and stakeholder expectations.

The convergence of ESG and digital transformation presents unprecedented opportunities for businesses and paves the way for holistic corporate transformations. By fostering collaborative ecosystems, rearchitecting the digital and data landscape, and adopting advanced technologies, organisations can navigate complexities and unlock untapped value realisation in the sustainability space. By embarking on this transformative journey and integrating ESG seamlessly into their digital agendas, businesses are reshaping industries and creating enduring value for all stakeholders.



Digital transformation has emerged as a critical priority for organisations seeking to remain competitive in today's rapidly evolving business landscape. However, alongside this imperative for innovation and efficiency, the global call for sustainability has become increasingly urgent. Apart from policy mandates and regulatory compliances, several Indian companies are also voluntarily participating in national and international sustainability initiatives. For example, several leading Indian automotive and IT companies are part of the RE100 and Dow Jones Sustainability Index.

Integrating ESG principles into business strategies is no longer optional but a strategic imperative for companies aiming to sustain and enhance their competitive edge. Traditional financial metrics are insufficient to capture the full spectrum of business risks and opportunities today. We have observed that companies with strong ESG performance tend to exhibit lower capital costs and higher operational efficiencies and better management. In addition, institutional investors increasingly favour companies with robust ESG practices, as they are better positioned to manage long-term risks and opportunities.

As part of PwC's 27th Annual Global CEO Survey, 53% of Indian CEOs responded that climate change has been a major factor driving the way their companies create value in the past five years. This figure aligns with the response from 47% of global CEOs.

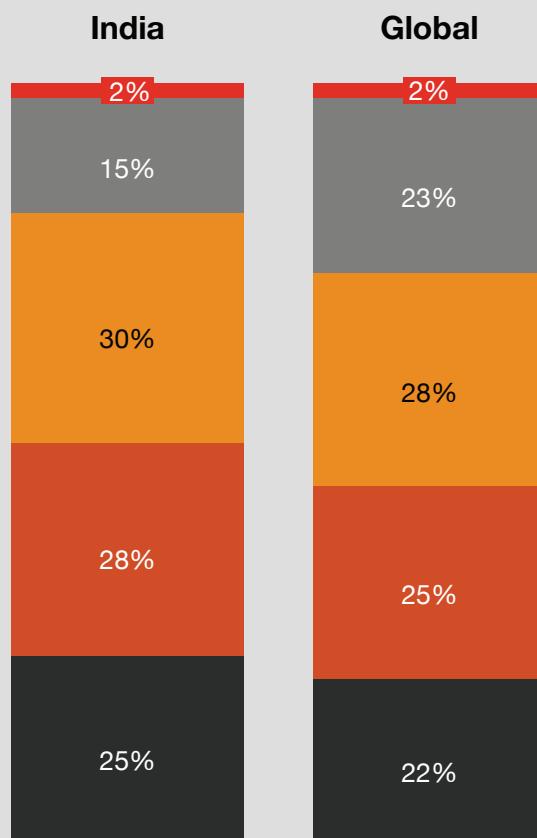
It is crucial for organisations to integrate the sustainability agenda into their broader digital strategy and leverage digital transformation as a catalyst for positive environmental and social impact.

Relevance of digital in the sustainability space

In the current business landscape, environmental, social and governance (ESG) reporting has become a crucial aspect of corporate accountability and transparency. In India, regulatory bodies and stakeholders are demanding higher standards of ESG disclosures with hefty costs for non-compliance. To effectively navigate the ever-changing legal and business landscape, technology has been proven to be a game changer. The key lies in including the firm's sustainability agenda within the digital strategy, ensuring that technology-driven advancements enhance the firm's overall environmental and social responsibility.

PwC's 27th Annual Global CEO Survey: India perspective

Question: Indicate the extent to which climate change has driven changes to the way your company creates, delivers and captures value in the last five years.



- To a large/very large extent
- To a moderate extent
- Not at all or to a very limited extent
- To a limited extent
- Don't know



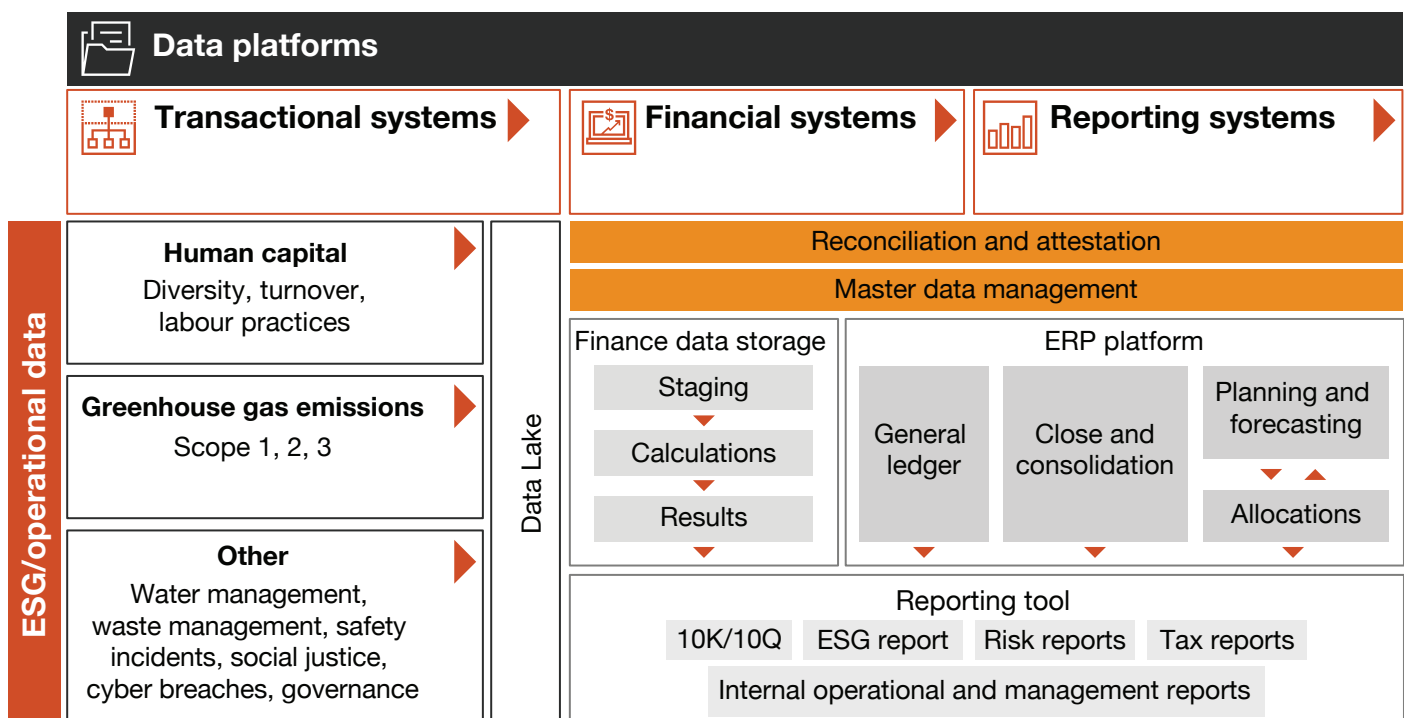
The foundation of any modern ESG strategy lies in digital transformation. Technologies such as the internet of things (IoT) and artificial intelligence (AI) enable companies to gather, analyse and act on vast amounts of data from the endpoints in real time. For instance, IoT sensors can monitor environmental parameters such as energy usage, emissions and waste, allowing firms to optimise their operations and reduce their environmental footprint. AI, on the other hand, provides predictive analytics that can forecast potential sustainability issues and suggest preventive measures. This proactive approach not only ensures compliance with environmental regulations but also enhances operational efficiency, leading to significant cost savings. Blockchain has been explored for supply chain visibility, international climate finance, streamlining ESG processing and reporting through agile and automated data collection, etc.




Integrated ESG platform

No single solution meets all of the ESG needs, and hence the need for an integrated ecosystem. ESG and net zero cut across a number of different solution capabilities, all of which need to be integrated and working in harmony to be effective. It is essential for organisations to be active in the digital ecosystems that enable ESG and net zero capabilities. The integrated ecosystem comprises the following systems:

- **Data platforms:** End-to-end data acquisition, storage and cleansing
- **Transactional systems:** ESG source data (i.e. human capital, cyber greenhouse gas emissions, safety, others)
- **Financial systems:** ERP platforms
- **Reporting systems:** ESG reports, risk reports, tax reports, internal operational and management reports.





In addition to this, the design of the sustainability data architecture supporting the overall ESG ecosystem should cater to both current sustainability agenda as well as future aspirations. A robust futuristic ESG architecture should be designed based on certain key principles.¹

- **Strategic:** Alignment with broader strategic IT vision and technology decisions. Integrations and interoperability amongst various systems and enterprise-wide applications will enable seamless flow of information.
- **Functionality:** Enables smooth collection of data (from multiple sources) and processing for generating reports based on pre-determined KPIs across required topical areas (climate, biodiversity, human capital, etc.).
- **Data management and validation:** A set of disciplines for ensuring data quality and availability via an agreed upon process and a set of practices which describe how data requirements will be met and analytics objectives will be achieved.
- **Configurability:** Customised solutions as per business needs to incorporate their own KPIs and calculations.
- **Integration and automation:** Provisions real-time integration with various data feeds via approved API services.
- **Reporting and dashboards:** Customised real-time dashboards with advanced AI/machine learning (ML) capabilities to generate insights.
- **User experience:** Should have an intuitive, well-designed platform that is user-friendly and easy to navigate.
- **Auditability:** Should have the right controls and processes to confirm that data can be stored, managed and eventually generate auditable sustainability data.

Technology-enabled ESG lifecycle

Technology can help mitigate some of the major challenges barring companies from achieving a seamless ESG reporting cycle.

- **Data collection, integration and real-time monitoring:** Implement integrated software platforms that can aggregate data from diverse sources such as IoT devices, ERP systems and external databases to ensure seamless data collection. Utilise IoT sensors and real-time data analytics tools to monitor environmental parameters (like emissions and water usage) and social metrics (like workplace safety incidents) in real time.

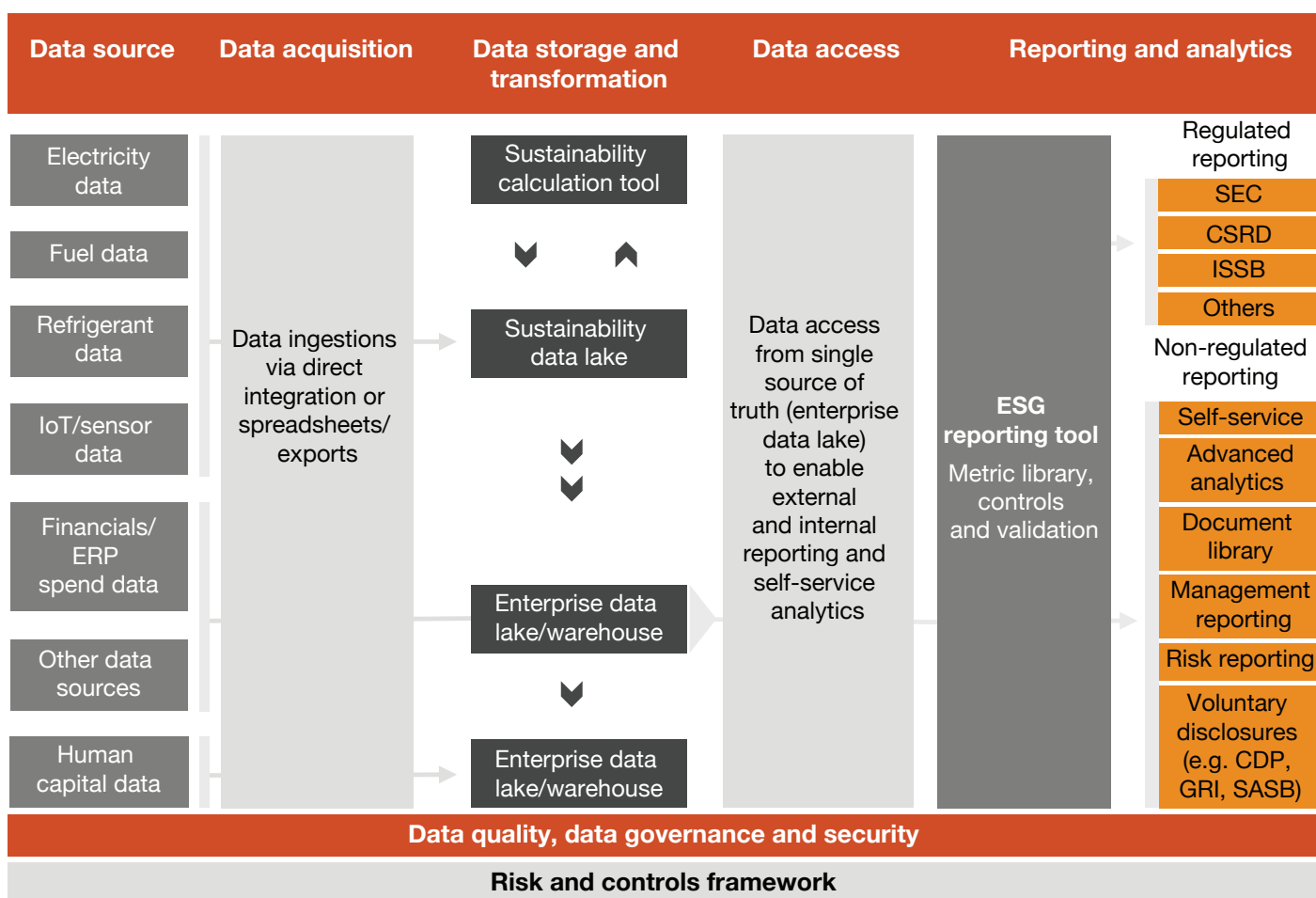
¹ PwC's sustainability research and publications



- **Standardisation and compliance:** Ensure compliance with diverse ESG reporting standards and frameworks (e.g. Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), Business Responsibility and Sustainability Reporting (BRSR), Corporate Sustainability Reporting Directive (CSRD) and International Sustainability Standards Board (ISSB)) using advanced solutions that can automate data mapping to different reporting frameworks. AI-driven tools can also assist in interpreting and aligning with evolving regulations.
- **Stakeholder engagement and communication:** Effectively communicate ESG performance to various stakeholders via dashboards and visualisation tools.



Reference ESG architecture



Source: PwC analysis



Collaboration with other business functions and external ecosystems

We are witnessing various currents coming together to propel the next wave of corporate transformation, namely sustainable business transformation, accelerated by the ESG revolution. This calls for an all-in approach wherein ESG permeates all aspects of a company (business unit, functions, operating models, strategy and processes). Having a strong ESG proposition requires a holistic approach – individual elements of ESG cannot be viewed nor managed in a silo – nor can clients focus on one component of ESG. In recent years, we have witnessed several firms exploring new revenue streams in the sustainability space, where digital has played a central role in delivering value. For example, a major Indian textile manufacturing firm is interested in exploring a blockchain-based supply chain traceability solution to certify the origin of organic cotton. This initiative has not only been able to build consumer trust but also opened up new markets that demand higher ESG standards.

Creating an ESG ecosystem consortium enables organisations to work together with partners, suppliers, advisors and regulators. This collaboration helps in developing industry-specific standards, measuring and optimising KPIs and objectives and key results (OKRs). By forming a cross-functional team focused on driving the ESG agenda, organisations can share development costs and risks, tackle challenges collectively, and communicate effectively with all stakeholders.

The CIO and CDO's action plan toward sustainability

To integrate sustainability into the CDO/CIO's agenda, organisations must adopt sustainable IT practices. This involves:

- **Designing sustainable data architecture:** CDOs/ CIOs should focus on designing robust ESG data architecture which should have capabilities around data sourcing and acquisition, data management and transformation, reporting and analytics, and governance and controls.
- **Leveraging data for sustainability:** The CDO's agenda should include leveraging data analytics to drive sustainability across the organisation, enabling informed decision making and continuous improvement.
- **Cloud transformation:** CDO/CIOs can define the cloud transformation journey for their organisations as cloud migration has more potential in terms of reduction of carbon emissions compared to optimising data centres.



Digital interventions

- Designing sustainable data architecture
- Leveraging data for sustainability
- Cloud transformation



Collaboration

- Measuring and reporting progress
- Collaboration and partnerships



Green IT practices

- Responsible and sustainable procurement
- Cloud computing and virtualisation
- Energy efficiency
- Sustainable end-user devices



- **Measuring and reporting progress:** The CDO should work closely with relevant stakeholders to develop key performance indicators (KPIs) that align with sustainability objectives. Regular reporting on achievements, challenges and lessons learned will demonstrate the organisation's commitment to sustainability and enable continuous improvement.
- **Collaboration and partnerships:** The CDO should actively engage with other departments, such as facilities management and procurement, to align sustainability objectives and foster a culture of sustainability across the organisation. Moreover, forging partnerships with external organisations, such as technology vendors and sustainability-focused entities, can provide valuable insights, resources and opportunities for knowledge exchange.
- **Responsible and sustainable procurement:** CIOs should engage in sustainable procurement practices, such as selecting vendors with strong environmental and social responsibility commitments and considering the lifecycle impact of IT assets.
- **Cloud computing and virtualisation:** The CIO should promote the adoption of cloud-based services and virtualisation to optimise resource utilisation, reduce hardware requirements, and support remote work initiatives.
- **Energy efficiency:** CIOs must prioritise energy-efficient hardware, data centre design, and infrastructure optimisation to reduce energy consumption and associated carbon emissions.
- **Sustainable end-user devices:** CIOs should focus on reducing emissions released by end-user devices through changes in sourcing strategy, procuring fewer devices per person and enhancing the lifecycle of each of these devices through recycling.

Integrating sustainability into the CDO/CIO's agenda is not only a responsible business decision but also a pathway to digital transformation. By embracing sustainable digital practices, leveraging data, fostering collaboration, and measuring progress, organisations can achieve their sustainability goals while driving innovation and growth. The CIO's agenda plays a pivotal role in steering the organisation towards a sustainable future, demonstrating leadership in the digital era and responding to the expectations of clients, stakeholders, and the wider community.

A well-defined transformation management office framework is essential to drive the sustainability agenda strategically. This must encapsulate the digital sustainability initiatives monitored at the leadership level, supported by automation tools to measure the value realisation and benefits, and help in realising the success of the programme.



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