Internal control over sustainability data.

ACCA

Internal Audit FOUNDATION

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About this report.

This report considers the extent to which internal control is being exercised over sustainability data. It has been developed from the insights of approximately 50 ACCA and IIA members from across the world, who contributed by participating in roundtables and interviews, as well as those of over 900 survey respondents.

The nature of internal control over sustainability data is evolving and quality is improving. There are clear roles for both internal auditors and accountancy and finance professionals in developing this aspect of an entity's sustainability journey.

Drawing from the insights, this report is intended to be practical. It offers observations and recommendations that we hope will assist the professional in implementing internal control measures over sustainability data.

This report does not consider the conceptual theory of the implementation of internal control; rather, it focuses upon the practical implementation of this theory to sustainability-related data. Relevant contextual information is available in the study materials provided by both ACCA and The IIA.

Nor does the report present an analysis of the status of sustainability reporting, save to illustrate the issues related to internal control. A contextual assessment of this is available in the reports available on the ACCA Sustainability Hub.

Foreword.

Helen Brand OBE
chief executive, ACCA

Anthony J. Pugliese
IIA President and
Chief Executive Officer

The relationship between our two organisations is more than timely – it's essential. This report highlights how accountancy, finance and internal audit professionals can work together to add value and bring real impact to their entities, especially in a world defined by significant change, growing risks and new opportunities.

Each of our professions plays a fundamental role in ensuring the integrity of financial information provided to both internal and external stakeholders. Today, as entities are transforming to more sustainable operating models, there is a need for our professions to apply the same rigorous controls to sustainability data.

This journey toward sustainability calls for closer collaboration across our professions to understand interdependencies, both in operating models and in sustainability-related business objectives.

Internal audit, accountancy, and finance professionals are well positioned to guide that journey by applying the same discipline we have long delivered in financial data to the evolving world of sustainability data. In doing so, we help to increase the trust that investors, boards, and other stakeholders place in our organisations. This is a fundamental objective and one which should be pursued vigorously.

On the sustainability journey, our professions must upskill and demonstrate understanding of what drives organisational value through the data that we present and interrogate. Both ACCA and The IIA are committed to supporting that development through learning opportunities and resources that prepare our members for the future.

This is an exciting moment for our professions, and together, we look forward to building on the progress we are making.

Contents.

executive summary.

Three key messages from this research:

- The nature of the process flows related to sustainability data require a reappraisal of the accepted internal control concepts to ensure that they can be applied appropriately.
- A successful implementation of internal control over sustainability data fundamentally relies upon the executive and management of the entity establishing sustainability objectives as core strategic objectives monitored by robust key performance indicators (KPIs).
- Data ownership that embraces internal control must be established, especially in areas where control consciousness is not fundamental to personal conduct and all those involved in internal control need the appropriate skill sets.

Creating trust and transparency are key objectives of any internal control framework. In a world where uncertainty and complexity at many levels are increasing, objectivity is paramount. Sustainability (the combination of environmental protection, social equity and economic viability) presents significant risks and opportunities for all entities. Measuring progress in a trusted manner can be greatly assisted by applying internal control principles to the relevant data. Yet, as this report explores, there are challenges and opportunities to address if a reasonable level of control is to be achieved. Perhaps this might be more achievable for larger entities; the challenges are more substantial for smaller entities in value chains. They may need to satisfy larger entities (customers) that have their own social and environment strategic objectives and more rigorous reporting requirements.

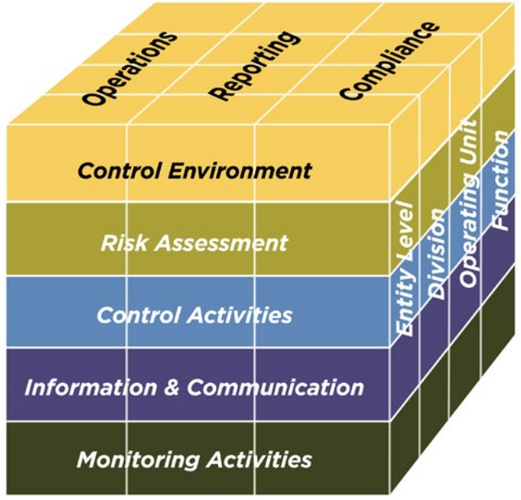
There is a real opportunity for accountancy, finance and internal audit professionals to engage in the sustainability-related agenda and to deliver strategically important and meaningful work and make a strong contribution to sustainable businesses which are essential for the future of the capital markets, the global economy and the planet.

The reality is that if, as accountancy, finance and internal audit professionals, we are to apply the principles of internal control to sustainability data, we need to rethink our approach to controls and appreciate the differing nature of the data involved. This presents an opportunity for these groups to establish their relevance to data quality and governance throughout the entity, not solely to financial objectives. This may well require an adaptation in our thinking of key control concepts.

We also need to educate others, who might well be outside the scope of traditional internal control frameworks, about the value and benefits of controls. Only if we undertake this will it be possible to achieve the levels of trust in the data that are required by both internal and external stakeholders.

The establishment of effective internal control over sustainability data requires actions for all those who have responsibilities for control as defined by the Committee of Sponsoring Organizations (COSO) model (Figure ES1; also as explored in Chapter 3).

Figure ES1: The COSO model internal control – integrated framework



Source: COSO (2013)

The sustainability data needed for both internal performance management processes and external reporting has significantly different attributes from financial data (these are considered in Chapter 2). There are both challenges and opportunities in data ownership, governance and initiation (the point at which the transactional flow commences). Addressing these factors requires actions from each of those represented by The IIA's Three Lines Model (as introduced in section 1.4 and considered in section 3.7). These actions require coordinated activity across each of the lines. It is accepted that the maturity level of many of the data components is not as well developed as for financial data. Implementing and maintaining effective internal control is both a challenge and an opportunity. An element of the opportunity is to bring the skills and attributes of the professionals to bear in continually improving data quality and hence informed decision making by both internal and external stakeholders.
The recommended actions in this report demonstrate the value of both accountants and internal auditors in this field. The skills that both groups possess are essential for the growth of the entity.

'The establishment of effective internal control over sustainability data requires actions for all those who have responsibilities for control.'

The key risk is one of inadvertent reliance upon data that is not robust. As discussed in section 2.2, there are several areas of action where professionals must establish effective internal control over sustainability data, as outlined in Figure ES2. These recommendations are referenced in the action plan in the following pages as well as throughout the report.

The challenge is that a system of financially driven internal controls that can be applied to sustainability data does not exist. There is, perhaps, a need to reframe the internal control discussion to be broader and to upskill process owners, management, internal auditors and others who have responsibilities for the three lines, raising awareness of what is achievable.

Figure ES2: Components of effective internal control over sustainability data

'There is, perhaps, a need to reframe the internal control discussion to be broader and to upskill process owners, management, internal auditors and others who have responsibilities for the three lines, raising awareness of what is achievable.'

The key recommendations, which are further articulated in the subsequent action plan, are as follows.

- **Ensure that the entity has included sustainability-related objectives in its strategic goals:** internal control can be established only by setting appropriate strategic objectives at the board and executive level and measuring performance against them.
- **Identify current data collected and evaluate its appropriateness:** entities are already collecting data relating to sustainability-related objectives for many reasons. This data may not be sufficiently robust for reporting requirements and the establishment of internal control. Existing data sets should be evaluated.
- **Strengthen data governance and ownership:** clarify data ownership, assign accountability, and establish robust data governance to ensure good data quality, traceability and alignment with strategic objectives.
- **Improve data with technology and automation:** use digital tools, automation, artificial intelligence (AI), and integration with enterprise resource planning (ERP) systems to reduce manual errors, improve data reliability and enable real-time insights.
- **Undertake capacity building and training:** upskill staff across all three lines (operations, risk/compliance, internal audit) to build awareness, technical competence and a culture of control around sustainability data.
- **Establish effective leadership and 'tone at the top':** ensure that board and senior management set clear expectations, embed sustainability into strategy, and drive accountability for data quality and control.
- **Ensure consistency of processes and metrics:** develop consistent and repeatable data collection, validation, and reporting processes, and align with reporting frameworks to improve comparability and assurance.
- **Embrace technology for delivering control strategies:** technology, including AI, provides important tools for establishing internal control over diverse data sets.
- **Engage external assurance and undertake readiness assessments:** engage internal and/or external experts for assurance, benchmarking, and gap analysis to validate controls and prepare for regulatory and stakeholder scrutiny.

Smaller entities may well need to partner with others in their value chain or contract specialist resource providers to address some of these actions.

Action points

Throughout this report, this icon indicates potential actions that the reader should consider when seeking to establish internal control over sustainability data.

'Internal controls over sustainability data should focus on accuracy, compliance, and cost-effectiveness. Key considerations include ensuring data integrity through consistent tracking, maintaining regulatory compliance to avoid penalties, and using cost-effective monitoring methods. Aligning sustainability efforts with operational efficiency, such as [for] fuel use, helps reduce costs while meeting environmental goals. Assigning clear accountability for data collection ensures reliability and continuous improvement. This approach balances sustainability with financial stability.'

ACCA / IIA survey respondent from Africa

Action plan.

Within the chapters of the report there are several actions that entities should consider when seeking to improve their internal controls over sustainability data.

These are denoted by the icon.

Table ES1 provides a summary of some of the recommended strategic actions, with references to the sections in which they are discussed. Additional actions are detailed in the relevant sections.

The actions are grouped by key themes, which are discussed in the report. Each level of action is designated as ‘foundational’, ‘developmental’ or ‘optimum’.

Table ES1: Summary plan of actions to consider when improving or implementing internal controls over sustainability data

ACTION	LEVEL	SECTION REFERENCE
‘TONE AT THE TOP’ AND CONTROL ENVIRONMENT		
Ensure that sustainability-related objectives are included in the entity-level strategic objectives.	Foundational	2.1
Ensure that the performance metrics of the entity include sustainability-related KPIs.	Foundational	2.1
Ensure that there is board and executive-level accountability for sustainability-related objectives and that those charged with this responsibility are appropriately skilled.	Foundational	2.1
Ensure that there is clarity of responsibility in each of the three lines of The IIA model.	Developmental	3.7
Ensure that the risk culture of the entity includes sustainability-related objectives.	Foundational	2.1
Develop and implement learning activities for those groups within the entity who may not be fully conversant with the principles of internal control and the three lines of The IIA’s model for reporting requirements.	Developmental	2.1
Develop an implementation roadmap for internal controls over sustainability-related data.	Developmental	2.1
Ensure that a robust materiality assessment is undertaken and linked to the risk management.	Optimum	3.2
Manage the implementation of internal control over sustainability data as for any other transformation, considering the key components of people, process, data and technology.	Optimum	2.2
Should the entity be currently undertaking any form of finance, operational transformation or risk management, ensure that sustainability reporting objectives are considered and that these include control objectives.	Optimum	2.2

ACTION	LEVEL	SECTION REFERENCE
DATA AND PROCESSES		
Consider how the COSO guidance on Internal Control over Sustainability Reporting (ICSR) can be applied.	Developmental	1.3
Conduct focused upskilling of individuals, increasing sustainability and internal control knowledge relevant to their roles, potentially involving people working on financial internal controls, to give awareness and support to this new population of internal control owners.	Foundational	2.2
Evaluate current data sets to establish whether they are sufficiently robust.	Foundational	2.2
Ensure that each data element has a clearly identified data owner who understands their responsibilities, including those related to internal control.	Foundational	2.2
Ensure that process owners are clearly identified and their responsibilities, including internal control, are defined.	Foundational	2.2
Ensure that points of data capture, especially of unstructured and third-party data, are identified.	Developmental	2.2
Consider including internal control requirements within supplier codes of conduct for data that forms part of sustainability reporting or performance management.	Developmental	2.2
Ensure that appropriate controls are in place for systems and applications, especially where end-user computing systems are used.	Developmental	2.2

ACTION	LEVEL	SECTION REFERENCE
Appreciate the need to refresh the process and control documentation as the reporting requirements evolve and data quality improves.	Optimum	2.2
CONTROLS		
Appreciate the need to improve the quality of controls but accept the potentially differing nature of the data involved.	Developmental	3.1
Ensure that those who are responsible for information and communication component controls are appropriately skilled and appreciate that the effectiveness of these controls is reliant upon the follow-up remediation of issues.	Developmental	3.5
INTERNAL AUDIT		
Where internal controls are still being developed for sustainability-related data, internal audit should consider acting in an advisory capacity using their skills and experience to help shape appropriate controls.	Developmental	3.7
Internal audit should be involved in testing the implementation plan at the different phases, using a maturity model to assess the level of assurance.	Developmental	3.7
Ensure that there are appropriate resources, or access to appropriate external expertise, such that the internal audit team can discharge their responsibilities for sustainability-related risks.	Foundational	3.7
Advise audit committees whether, in their view, controls over sustainability-related data and reporting are sufficiently robust and whether entity-level risks are being appropriately addressed.	Developmental	3.7

1. The importance of internal control over sustainability data

'I think without [internal control over sustainability data] it will be a recipe for disaster. Internal controls may force the integrity of data to happen faster than would otherwise [be the case].'

Roundtable participant from the Caribbean

1.1 Why internal control and sustainability data matter

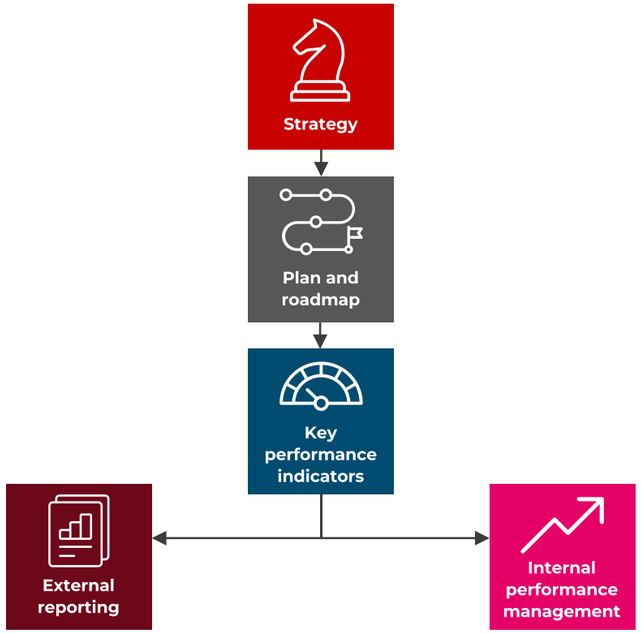
Strategic alignment of sustainability objectives and internal controls

Amid the challenging geopolitical environment of the 2020s the attention of entities' leaders may be on shorter-term issues and crises. Yet the longer-term imperative of addressing sustainability challenges (such as climate, biodiversity and social inequality)[1] does not go away. The transition of entities to more sustainable business models requires them to adapt these models to reflect complex strategic drivers, such as circularity and the achievement of climate-related targets. This is one of the significant challenges of the late 2020s. As Figure 1.1 illustrates, in achieving these objectives, entities need to start by setting strategic goals that are in turn translated into a plan and road map. These yield a hierarchy of entity-level to process-level critical success factors that are measured by KPIs; their achievement is monitored by both internal performance management systems and external reporting requirements.[2]

1 The concepts of sustainability and internal control are explained in Appendix 1.

2 ACCA and IFAC in association with PwC considered the role of the chief financial officer and their team in achieving a just transition – ACCA / IFAC / PwC 2023.

Figure 1.1: Alignment between performance and internal control over sustainability data



An internal audit leader from the UK commented that, *'if you do not have a sustainability strategy, you are going to miss some of the issues and internal controls that you should be implementing'* thereby reinforcing, on this view, the link between strategic outcomes and internal controls.

A roundtable participant from Mauritius outlined many of the issues that face professionals in this area, commenting that *'we have got different types of data which do not necessarily conform to the norms that we are used to with internal control from the financial side. We have also got a degree of informality in the processes and systems. And then we also have a question of what standards we are applying and how we link those back to the strategic goals of the* [entity]*.'*

At the core of this is the ability to provide trusted information to both internal and external stakeholders. Establishing effective internal control[3] over the data that feeds into the reporting mechanisms is essential. Another roundtable participant form Mauritius highlighted both the opportunity and challenge that: *'sustainability reporting should be built on a strategically crafted system of internal control, just like financial reporting. Yet in practice, we often observe gaps such as inconsistent information, definition of metrics across departments and clear ownership of data points or lack of documentation on data sources'.*

This report considers the progress made so far in establishing internal control over sustainability data. There can be no doubt that the reflections of the contributors to the roundtables and the participants in the survey[4] conducted in March 2025 (that is, before the changes which were proposed to reporting requirements, such as the release of the EU Omnibus proposals (European Union 2025) to amend the reporting requirements) highlight the existing challenges, but also the opportunity they present.

A roundtable participant in Europe who consults on this area reflected upon the impact of the EU's announcement in April 2025 as follows. *'What we are seeing is a lot of companies are now taking* [the time created by the deferment of EU reporting requirements] *to align* [their strategic activities with the requirements of] *ISSB* [the International Sustainability Standards Board] *and CSRD* [the Corporate Sustainability Reporting Directive] *and their own nature, social and* [carbon removal] *work. We can align those in a way that makes sense for the same controls. You can see that a large* [entity] *and the consulting firms are all building up tools in this space, such as geospatial platforms. None of this works for small* [entities]*, …so we are actively engaged across the board with nature and social* [issues] *and target operating model … to wrap around that. Any pause is an opportunity to do the right things that you need to do to set the target operating model and do the proper data collection.'*

It should be noted that internal control operates across a multi-layered environment (as shown in Figure A1 in Appendix 1) and while there might be a tendency to focus upon controls at a more detailed-level, effective internal control is a combination of many activities executed at several levels of each entity. In Chapter 3, this report explores that framework and its implications in relation to data and internal control.

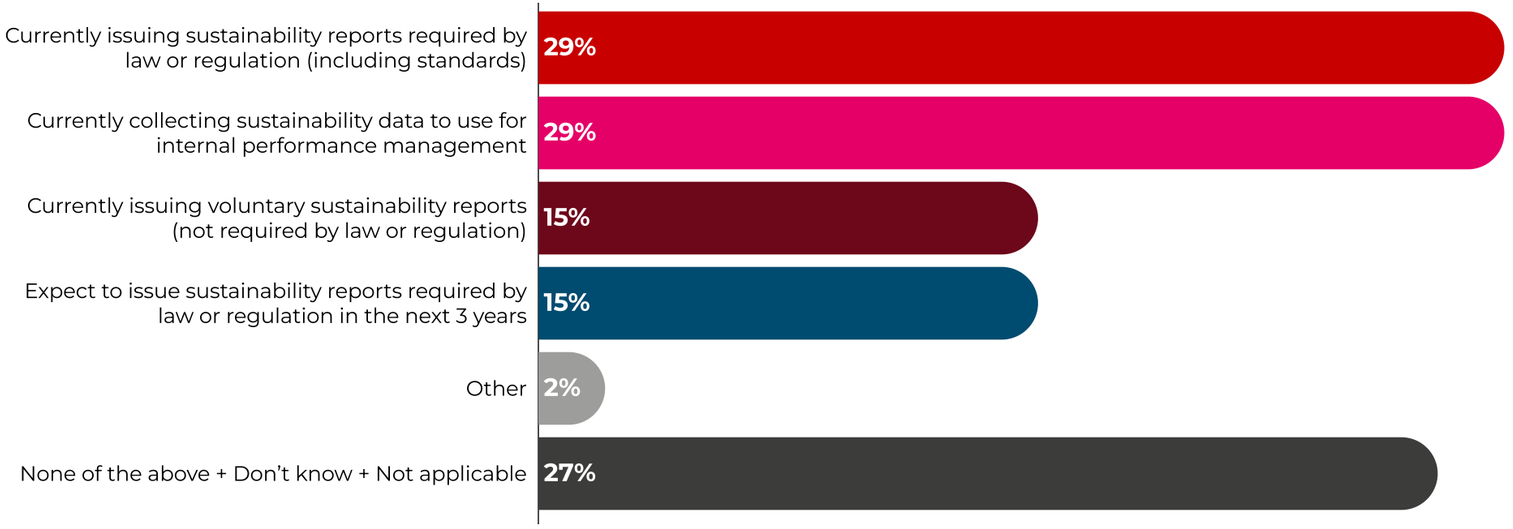
3 Definitions of both internal control and sustainability are considered in Appendix 1.

4 An overview of the demography of the survey respondents is given in Appendix 3.

Reporting landscape

In interpreting the results of any survey it is important to understand the perspective from which participants provide their responses. This is especially important in an area such as this, where the processes of sustainability reporting (both internal and external) are evolving. Figure 1.2[5] shows the status of the respondents' entities in relation to this reporting process. Approximately the same number of respondents are collecting sustainability data to facilitate external reporting as are collecting it for internal reporting. A similar number of respondents indicated that they are not collecting this data or do not know whether it is collected.

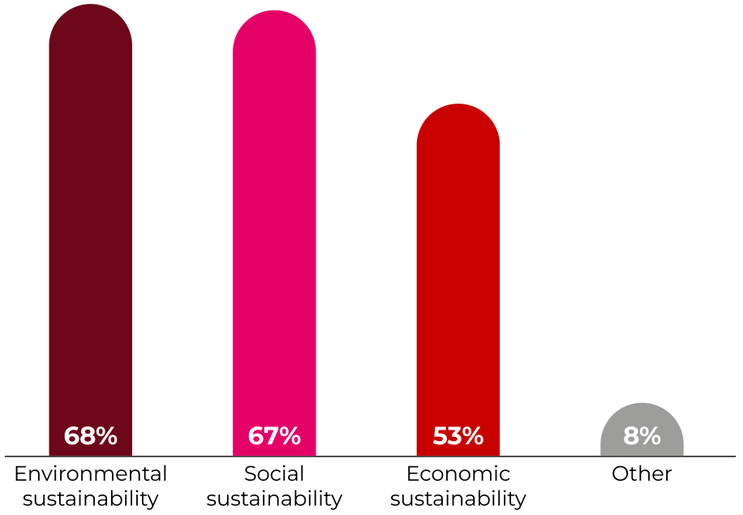
Figure 1.2: What is your entity's status related to sustainability reporting? (Choose all that apply) (n=917)



Sustainability objectives

The respondents who are collecting data were asked to identify each type as one of the three dimensions of a sustainable business: environmental, social and economic (Figure 1.3). The respondents focused more on environmental and social sustainability than on economic aspects.

Figure 1.3: Which of the following types of sustainability data were included in sustainability reporting at your entity in the most recently completed fiscal year? (Choose all that apply) (only shown if issuing sustainability reports) (n=761)

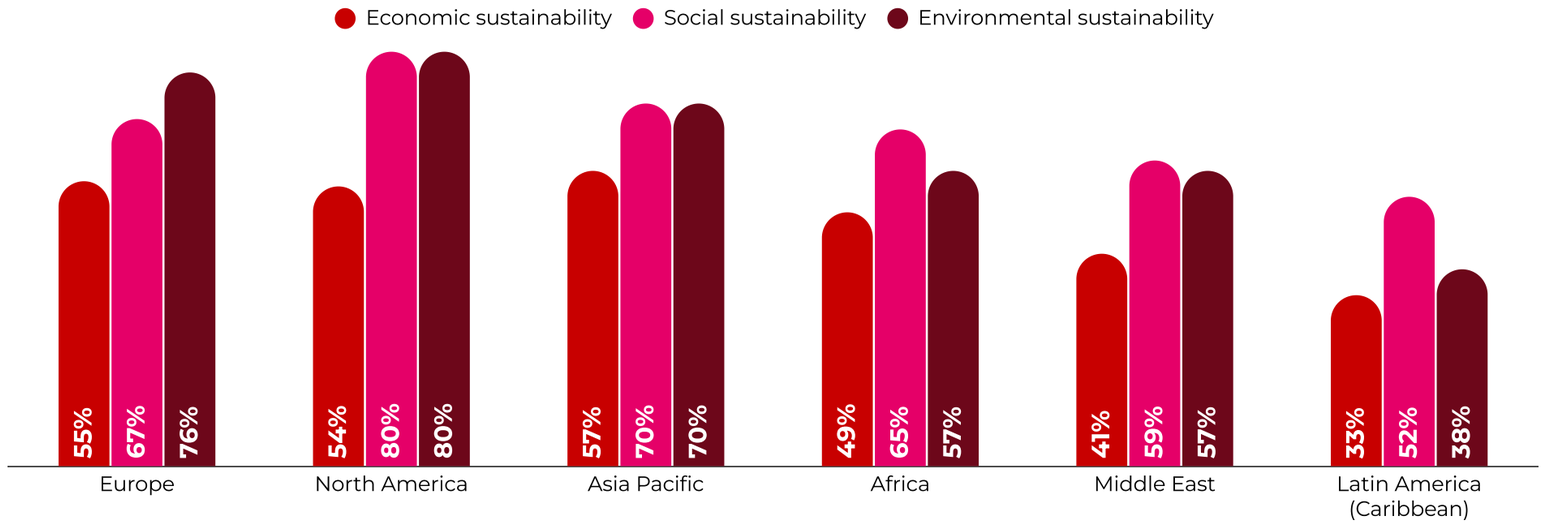


5 Unless otherwise shown, in all the figures in this report the analyses exclude those who responded 'don't know' and the percentages of respondents have been adjusted accordingly.

There are clear differences, as illustrated in Figure 1.4. As illustrated by a roundtable participant in the Caribbean, the response may well be contextual to the extent and scope of the regulations that have been implemented in that region. This participant noted that subsidiary companies there take action only when required by parent companies abroad, because much of the regulation that applies to the latter is not legislated in the Caribbean. This lack of regulation means that most firms don't record it so collecting data is difficult, expensive, time-consuming and frustrating.

Those respondents who were undertaking sustainability reporting in each of the three categories were asked to identify, from a selection, the specific data points that they were assessing.

Figure 1.4: Which of the following types of sustainability data were included in sustainability reporting at your organisation in the most recently completed fiscal year? (Choose all that apply) analysed by: In what region is your organisation based?[6] (n=761)



Sustainability is a complex subject, and no two entities are likely to have the same risk profile or materiality level and hence variations in the data collected are to be expected. The reflections of the roundtable participants indicated that, at least in this initial phase, there is a tendency to focus upon those data sets that might be easier to collect, rather than those requiring more complex analysis or investigation, such as Scope 3[7] emissions. A roundtable participant from Greece commented that *'on the environmental side, this is the place where we asked for some assistance from advisers, especially when trying to measure Scope 3 emissions. We have not yet gone to Scope 3, which is what I see as the most challenging part'.*

For any entity, sustainability data collection is a journey. Our roundtable participants argued that it is unlikely that any entity has fully, and satisfactorily, addressed the requirement. As an illustration of this, a roundtable participant from the UK reflected that *'when you get on to, say, biodiversity metrics and land use, it is beginning to mature. Satellite imagery is beginning to improve, but the data still is not* [satisfactory]*.'*

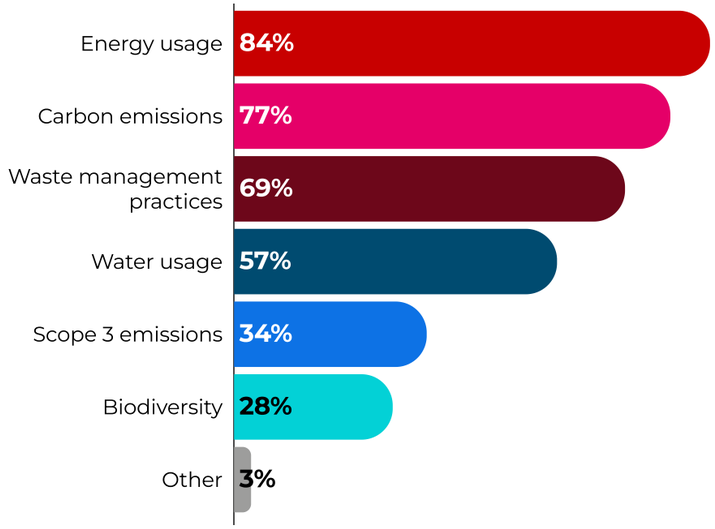
6 Further regional analyses of all survey responses can be found on ACCA's website at: x.x.

7 Scope 3 emissions are indirect greenhouse gas (GHG) emissions that occur in an entity's value chain, both upstream and downstream, but are not directly controlled by the entity. These emissions are a result of activities from assets not owned or controlled by the reporting entity but that the entity indirectly affects in its value chain.

Environmental protection

Figure 1.5 provides an analysis of the key topics that the survey respondents considered were included in their definitions of the environmental component of sustainability.

Figure 1.5: Which environmental sustainability topics were included in your entity's sustainability reporting? (Choose all that apply) (n=509)



Social equity

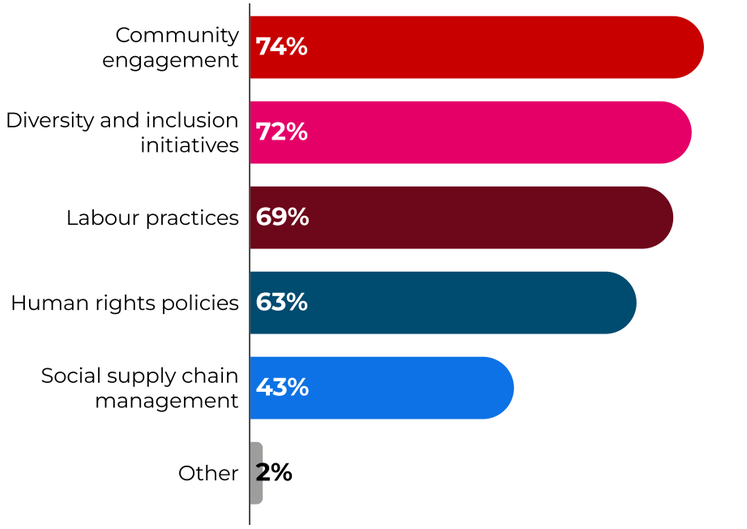
Figure 1.6 provides a similar breakdown from the perspective of the social agenda. There is a greater uniformity of the topics selected than on the environmental side, although these are principally within the own entity and less often in the supply or value chain (the complexity of the social agenda is explored in ACCA 2023a).

A roundtable participant from the UK commented that,

'The [social] and [governance] strands are the ones that always gave me the biggest headaches as an [external] auditor [of sustainability data], because at least with emissions, I can stress test it and I can get a reasonable conclusion with that. When it comes to, say, health and safety metrics, for example, assuring completeness is close to impossible. Particularly when it is, for example, accident data, because if it is not reported then it is not recorded and it is not published in the annual reports.'

Roundtable participant from the UK

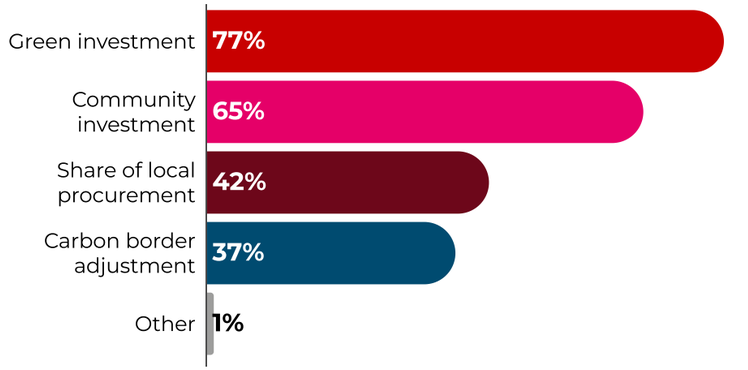
Figure 1.6: Which social sustainability topics were included in your entity's sustainability reporting? (Choose all that apply) (n=495)



Economic viability

Finally, Figure 1.7 gives the perspective of the economic-related sustainability topics.

Figure 1.7: Which economic sustainability topics were included in your entity's sustainability reporting? (Choose all that apply) (n=377)



When presented with the information in Figure 1.7, a roundtable participant from the UK commented, *'I presumed that economic sustainability would get into areas like business model, supply chain fit, third-party relationships and geographic presence. Those are the kind of scenarios around going concern and long-term financial viability: long-term risk analysis, whereas this is much more focused* [on] *the sustainability elements'.*

This example demonstrates the concern of many roundtable participants about divergent definitions and scope, which often confuse and can cause data reliability issues between third parties. It also illustrates the need to model the financial impact of both the environmental and social elements in any risk assessment or future model. Sustainability has a series of critically interdependent dimensions which affect the future of entities in complex manners. Only with robust data can any assurance on the validity of future models be assessed.

A roundtable participant from Europe gave an example illustrating the challenges of sustainability data and the implications for internal control. '[An entity that I worked with was] *reporting the same emissions data month in month out and it turned out that the receptionist did not understand what was being asked of her and thus their emissions data for the largest site was just a flat line for the last five years. A lot of businesses have* [set up] *the data collection* [but] *they have not understood that they need some controls around this. Many that I have worked with would be happy to see* [even one] *control, let alone more controls'.*

Challenges with data represented significant issues for all the contributors to the roundtables, starting with the scope of the data being collected. They also frequently expressed the belief that the existence of differing standards and interpretation of these standards was further confusing the data collection issues. Without clear agreement, detailed data collection is hard to manage.

1.2 Navigating the reporting landscape

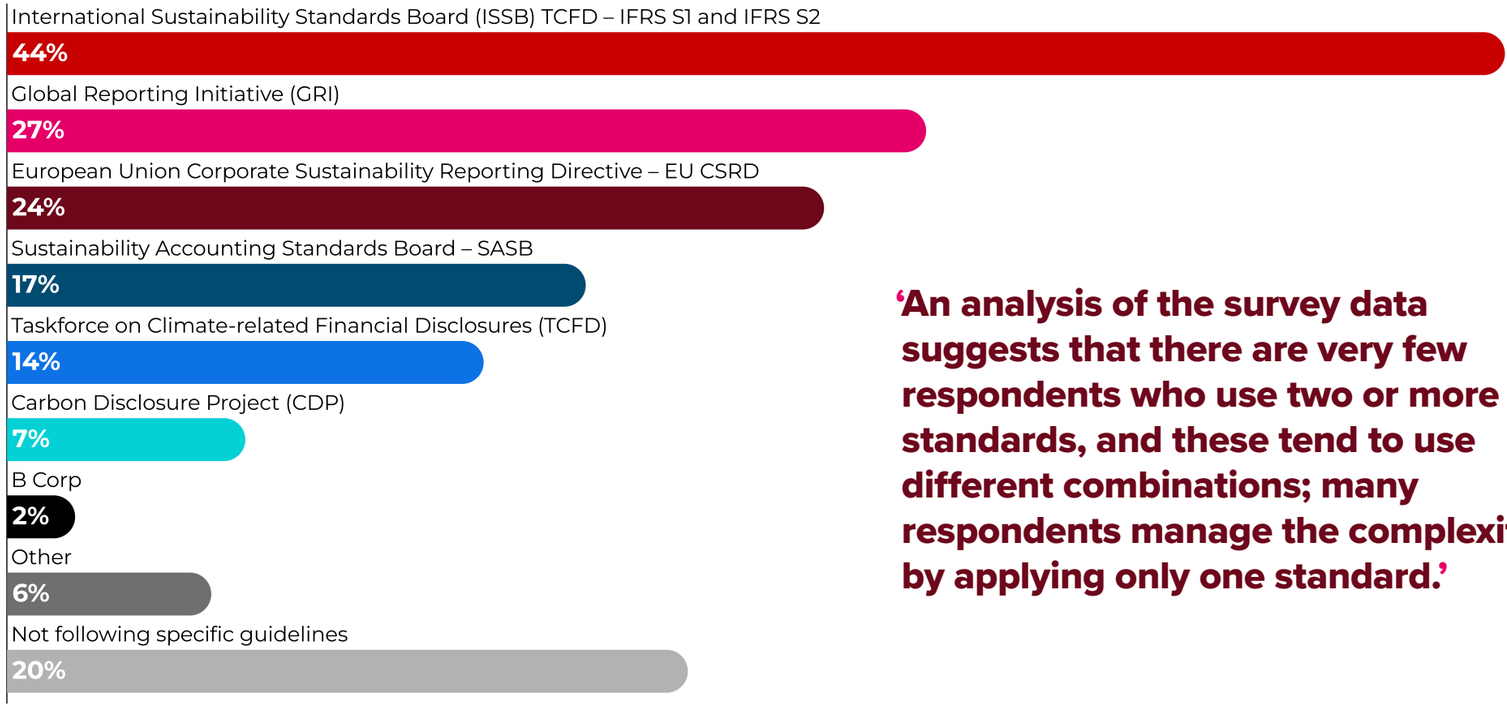
A second concern referenced by many roundtable participants was the existence of differing reporting standards and the implications for the range of data being required. A roundtable participant from Poland highlighted some concerns: *'on an operational and control level companies are reporting under different reporting frameworks, for example the Carbon Disclosure Project*[8] *– known as CDP – or any other voluntary or non-voluntary disclosures. Sometimes the reporting requirements are not aligned with each other, and the issue is that you need to spend a lot of time recalculating the same metrics just to match them to the specific framework. Alternatively, you could also try to establish a process where you see that the how does this information link? If you are using one metric, you need to show it under different reporting frameworks and try to determine whether there is a specific way in which you could* [use it to] *calculate. Because in some of the reporting frameworks there is … discretion on how to calculate some of the metrics and in others this is more prescriptive. Reconciling these different requirements* [is necessary] *to make sure that you know that, when collected, the data meets all the needs'.*

Figure 1.8 illustrates the survey respondents' view of the standards that they currently use for external reporting. An analysis of the survey data suggests that there are very few respondents who use two or more standards, and these tend to use different combinations; many respondents manage the complexity by applying only one standard.

For example, only 4% use both the ISSB standards 1 and 2 (S1 and S2) and the European Union's CSRD standards and there are lower percentages for those using other combinations of standards.

A lack of commonality, or interoperability, between standards and guidelines cannot be an excuse for failing to give priority to the collection of relevant data in a controlled manner.

Figure 1.8: Which guidelines, standards, or certifications does your entity use for external reporting of sustainability data? (Choose all that apply) (n=604)



'An analysis of the survey data suggests that there are very few respondents who use two or more standards, and these tend to use different combinations; many respondents manage the complexity by applying only one standard.'

8 An overview of the Carbon Disclosure Project (CDP) and other standards and guidelines is given in Appendix 2.

1.3 The COSO framework and ICSR

In March 2023, COSO released an overlay of its internal control framework and enterprise risk management (ERM) guidance to reflect the requirements for establishing internal control over sustainability data.

It should be appreciated that there is pressure from investors, regulators and other stakeholders for entities to manage sustainability risks transparently. Integrating sustainability-related risks into ERM can assist in addressing greenwashing and other similar risks,[9] strengthen stakeholder trust and create alignment with the entity-wide strategy.

Such integration ensures that the sustainability-related risks are considered as an integral part of the threats to the achievement of the entity-wide strategy, through ensuring that climate, environmental and social risks are assessed alongside financial and operational risks. The quantification of the risks in an inclusive manner ensures that in scenario modelling and other qualification techniques, the holistic risk profile is modelled. There are many interdependencies between sustainability-related risks and other operational and financial elements. Indeed, all risks have financial implications. Achieving this requires the effective alignment of people and processes with technology and data, driven from the tone at the top of the entity.

In their disclosures related to the requirements of the governance objective in the CSRD requirements, several entities cited the use of the COSO framework as the basis for establishing internal control (eg Tryg 2025: 63, Stora Enso 2025: 73 and MAPFRE 2025: 218).

Figure 1.9 outlines the framework in the guidance, which is referred to as ICSR, against the layers of the COSO model (as shown in Figure A1 in Appendix 1).

Figure 1.9: COSO Internal Control over Sustainability Reporting Framework

COMPONENT	PRINCIPLE
Control environment	1. Demonstrates commitment to integrity and ethical values 2. Exercises board of directors' oversight responsibilities 3. Establishes structures, authority and responsibilities 4. Demonstrates commitment to human resources 5. Enforces accountability
Risk assessment	6. Specifies suitable objectives 7. Identifies and analyses risks to meeting suitable business objectives 8. Assesses fraud risk 9. Identifies and analyses significant changes and emerging trends
Control activities	10. Selects and develops control activities 11. Selects and develops general controls over technology 12. Deploys oversight through policies and procedures
Information and communication	13. Uses relevant information 14. Communicates internally 15. Communicates externally
Monitoring activities	16. Conducts ongoing and / or separate evaluations 17. Evaluates and communicates deficiencies

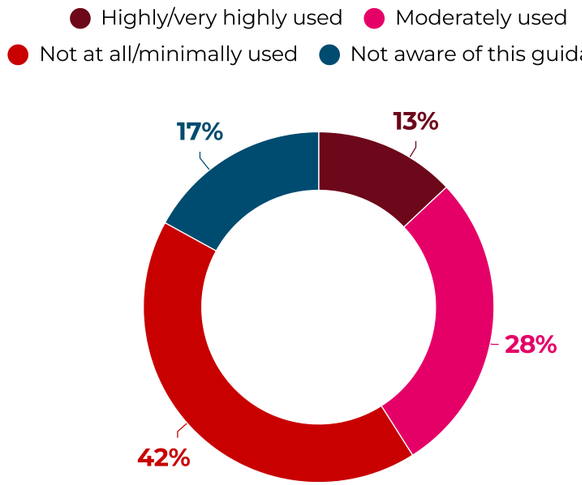
Source: COSO 2023

9 The other risks include 'greencrowding' (the practice whereby entities in a specific industry form groups or alliances to adopt similar, often superficial, environmental goals, using the collective action as a shield against criticism for not doing enough), 'greenlighting', 'greenshifting' (shifting responsibility for environmental sustainability from corporations to consumers or other stakeholders) or 'greenhushing' (where entities are staying silent about their sustainability efforts).

Internal audit plays an advisory role here. It highlights the availability and benefits of the COSO ICSR framework and can support its implementation if leadership chooses to adopt it.

The survey respondents were less confident about whether their entities were using this guidance as part of their process of establishing internal control over sustainability data. The results are shown in Figure 1.10.

Figure 1.10: To what extent does your entity currently follow COSO's supplemental guidance, Achieving Effective Internal Control Over Sustainability Reporting (ICSR)? (n=752)



A roundtable participant from the Caribbean commented:

'I think a lot of research has to go into what kind of internal control works best for each and every data point, whether it is the environmental data point, the social data point, or the governance data points.'

Roundtable participant from the Caribbean

Control is achieved by a range of functions in the entity working together, as exemplified in this model and in The IIA's Three Lines Model. The COSO model is used as a frame of reference for the recommendations in Chapter 3.

Consider how the COSO ICSR guidance can support the establishing of internal control over sustainability data and reporting.

1.4 The IIA's Three Lines Model

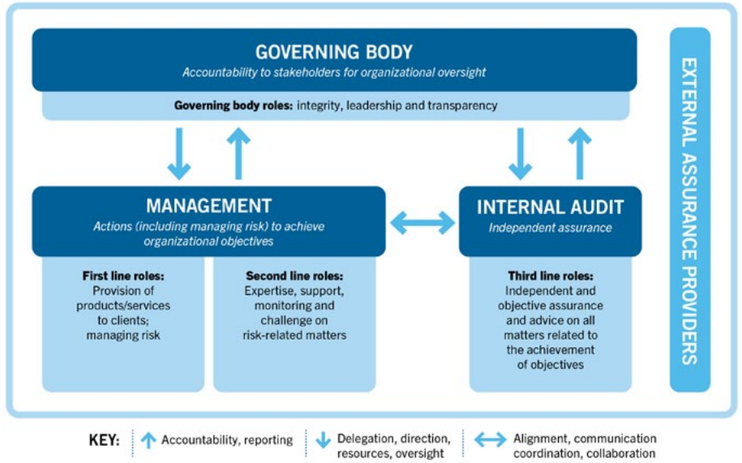
In 2008 – 2010 the Federation of the European Risk Management Associations and the European Confederation of Institutes of Internal Auditors published a 'three lines of defence' position paper to enhance the understanding of governance, risk management and control by clarifying roles and duties (ECIIA 2013). This was developed as guidance for the 8th EU Directive Art. 41 2b. In 2020 IIA refined 'The Three Lines', which can be briefly described as follows.

'*The Three Lines Model helps organizations identify structures and processes that best assist the achievement of objectives and facilitate strong governance and risk management. The model applies to all organizations and is optimized by:*

- *'Adopting a principles-based approach and adapting the model to suit organizational objectives and circumstances.*
- *'Focusing on the contribution risk management makes to achieving objectives and creating value, as well as to matters of "defense" and protecting value.*
- *'Clearly understanding the roles and responsibilities represented in the model and the relationships among them.*
- *'Implementing measures to ensure activities and objectives are aligned with the prioritized interests of stakeholders.'*

Source: The IIA (2020)

Figure 1.11: The IIA's Three Lines Model



Source: The IIA (2020)

The IIA's Three Lines Model provides an essential framework in relation to the implementation of internal control. In a further paper, consideration of the relationship between the Three Lines Model and sustainability practices can be found in a joint white paper produced by the World Business Council for Sustainable Development (WBCSD) and The IIA, titled *'Embedding ESG and Sustainability Considerations into the Three Lines Model'* (WBCSD / The IIA 2025).

Section 3.7 of the present report contains an analysis of the respective challenges and opportunities for each of the three lines in relation to sustainability-related data. It should be remembered, however, that this is an evolving space and all professionals need to be collaborative and adaptive. As will be seen in Chapter 2, each of the three lines needs to be responsive if the ambition of establishing internal control is to be achieved.

Ensure that those in each of the three lines are sufficiently educated in their responsibilities for internal control over sustainability data and reporting.

'When managing internal controls over sustainability data, it is essential to ensure the accuracy and reliability of data through [consistent] collection and validation processes. Robust information systems should support data aggregation and secure storage, while regular training for employees enhances understanding and compliance.

These controls should be practical and not onerous, designed to improve efficiency without adversely impacting profitability. It is important that these measures are flexible and aligned with the company's goals, adaptable enough to evolve with changing strategies or unexpected variables.

Effective communication should clearly convey sustainability practices and results to both internal and external stakeholders, ensuring that controls remain credible and supportive of the [entity's] strategic objectives.'

ACCA / IIA survey respondent from the Caribbean

2. Ambition to action

‘One of the key issues we face is that internal controls around ESG [environmental, social and governance] data are often still maturing.’

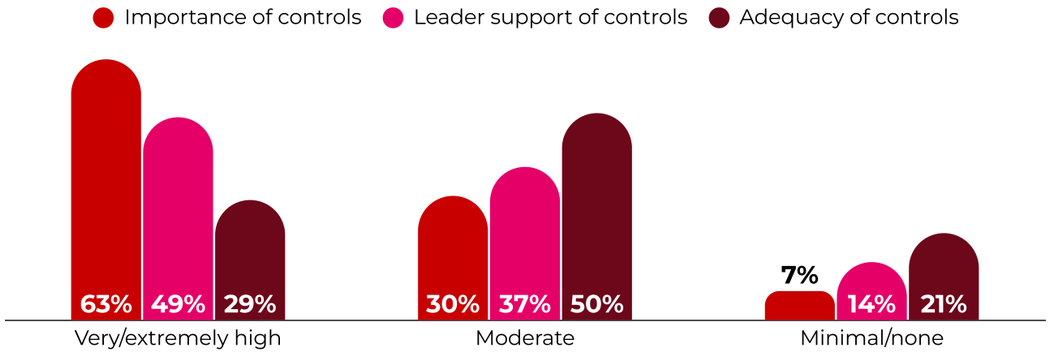
Roundtable participant from Mauritius

2.1 Perceived gap

The survey respondents were asked three interconnected survey questions, which focused upon understanding the extent to which there is an ambition to implement internal controls over sustainability data, the extent to which entity-level leadership is supportive of this and an assessment of the current adequacy of the controls.

The results are given in Figure 2.1.

Figure 2.1: Perspectives on controls over sustainability data – importance, leader support, and adequacy (among respondents with sustainability reporting) (n=658)



The survey respondents indicated that while, in their view, a high degree of importance is attached to implementing controls in this area, there was still work to be done in establishing these and only approximately half of the respondents considered that there was a high level of leadership support. It is also clear that no entity in the survey has yet to establish a fully effective set of internal controls over sustainability data, with fewer than one-third of respondents saying adequacy of controls was very or extremely high. The message, which was confirmed by the roundtable participants, is that there is a considerable opportunity for improvement.

The journey is complex and the potential obstacles significant. Establishing internal control over sustainability-related data involves functions, such as human resources and operations, whose personnel may not be fully conversant with the principles of internal control, especially in relation to external reporting objectives. It may be appropriate to develop and implement appropriate learning activities for these groups to ensure that they are appropriately conversant with the objectives and principles.

Establish clear accountabilities for internal control over sustainability data across the entity.

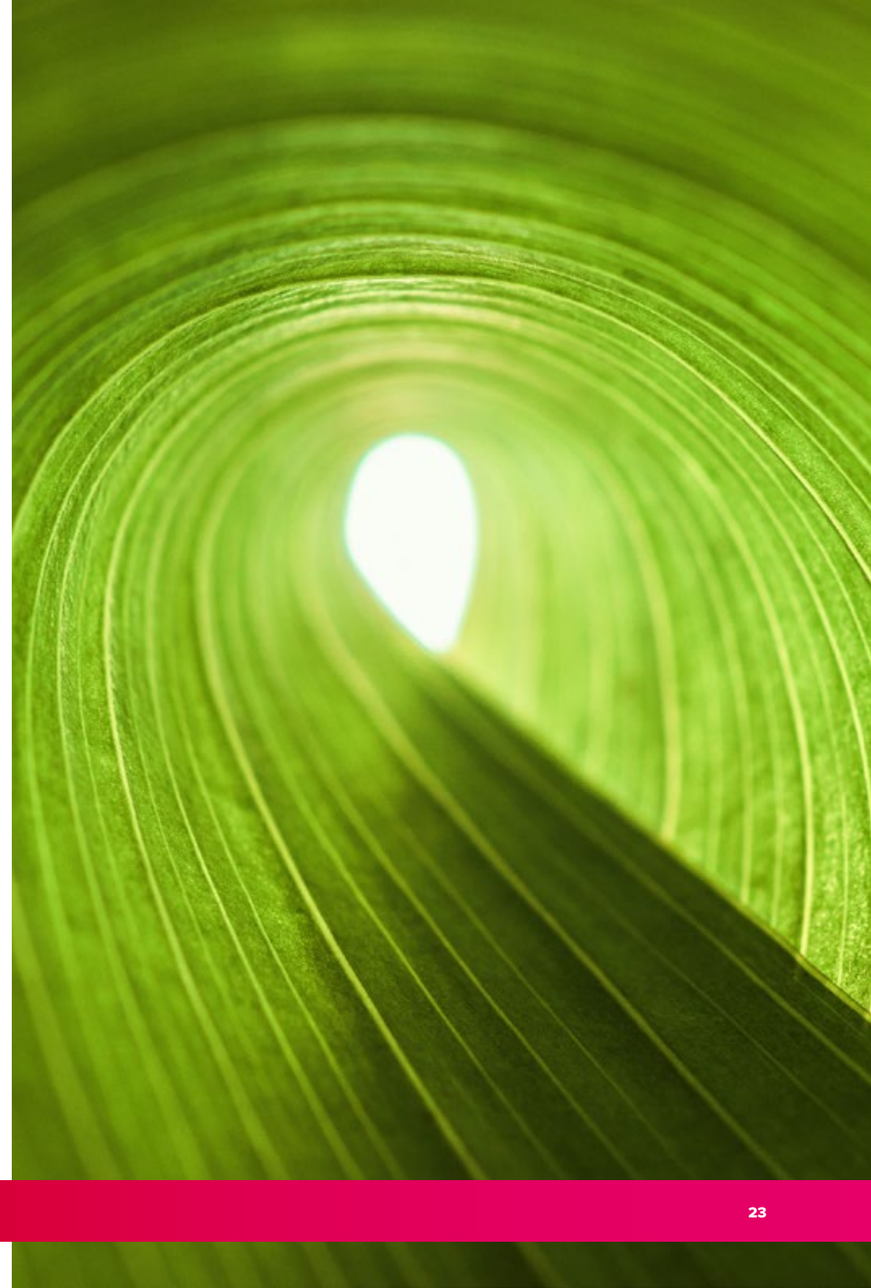
Ensure that the leadership of the entity appreciates and supports the benefits of internal control over this data and plays its full role as the governing body.

Define a roadmap, with accountabilities, for the implementation of internal control over sustainability data, which reflects the ambition and has time-bound milestones.

Ensure that sustainability is integrated into the risk culture of the entity.

Develop and implement learning activities for those groups within the entity who may not be fully conversant with the principles of internal control for reporting requirements.

‘Establishing internal control over sustainability-related data involves functions, such as human resources and operations, whose personnel may not be fully conversant with the principles of internal control, especially in relation to external reporting objectives.’



2.2 Emerging concerns

To establish an effective internal control environment several factors are needed in combination to create robust processes and yield effective data. The survey respondents were asked to consider the extent to which a series of challenges influenced their implementation of internal control over sustainability data (Figure 2.2) in ways that might undermine these critical factors.

The key challenges identified by the roundtable participants aligned with the views of the survey respondents. These were, in the order of frequency of occurrence in the discussions:

- poor data quality and fragmented sources
- lack of uniformity and clear frameworks
- insufficient skills, knowledge, and resources
- weak leadership support and unclear data ownership
- immature or poorly defined processes, and
- difficulty adapting financial control models to sustainability data.

The successful implementation of internal control over sustainability data requires the entity to address many of these issues. In seeking to establish effective internal control, it is important that each entity conducts its own root cause analysis of the issues that it faces.

It can be beneficial to consider the implementation of internal control over sustainability as a transformation. A successful transformation requires the consideration of four critical components: people, process, data and technology. Implementations driven from one component tend to fail. Figure 2.3 illustrates the potential interdependencies for each of the issues discussed in the subsequent paragraphs, following approximately the order of criticality established in Figure 2.2.

Figure 2.2: How much impact do these potential challenges have on internal controls over sustainability data at your entity? (n=843)

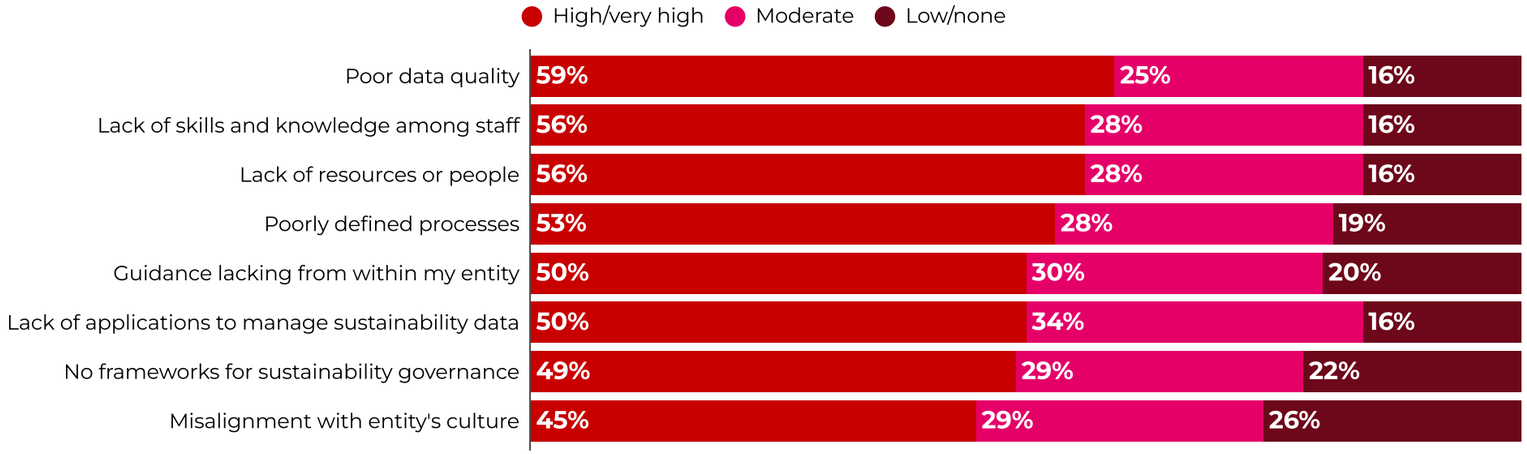


Figure 2.3: Interdependency of transformational components against internal control issues

	Data quality	Data ownership	Initiation and capture	Process flows	Skills and resources	Third-party data	Entity-level culture	Focused applications
PEOPLE		✓		✓	✓	✓	✓	
PROCESS		✓	✓	✓		✓	✓	
DATA	✓	✓	✓	✓		✓		✓
TECHNOLOGY	✓		✓			✓		✓

Data quality

The quality of data is the paramount factor in establishing effective internal controls. Without quality data any internal controls will only serve to preserve the integrity of erroneous or subjective data.

In this regard, perhaps the most fundamental issue is that the range of data being managed in sustainability-related processes is highly variable. It can range from data collected from structured sources to unstructured data not originally intended for reporting purposes. Several roundtable participants commented that establishing effective internal control over sustainability data represented a significant challenge, given the length of time that it has taken to develop appropriate controls over financial data.

A roundtable participant based in Africa commented that, *'we do not yet have a standard process or* [an overall] *standard in place by which we will be gathering what data, how often and in what format'.*

Improving data quality is a continuous process, especially amid evolving reporting requirements and strategic goals. Action planning and outcome monitoring are essential steps if internal control over sustainability data is to be improved. Where possible, these activities should be incorporated into entity-wide data-quality improvement initiatives.

Table 2.1: Considerations to include in an action plan for improving sustainability-related data quality

1. DEFINE GOALS AND OBJECTIVES
• Establish clear, measurable goals for data quality improvement. These could include improving accuracy, completeness, consistency, or timeliness of specific datasets.
• Identify a common definition of sustainability objectives or, preferably, align to the entity's vision and strategic objectives.
• Identify the specific business needs, such as how the data forms sustainability-related data points and how improved data quality will address issues and control weaknesses. This helps focus efforts and demonstrate the value of the project.
• Use data-quality tools and technologies to automate and streamline the implementation process.
2. ASSESS CURRENT DATA QUALITY
• Undertake a review exercise to establish data currently collected in relation to sustainability-related reporting.
• Conduct a thorough assessment of existing data quality, including incorporating the control property considerations discussed in the 'How transactions are initiated and trusted data' section below. This involves identifying data quality issues and understanding their root causes.
• Use data profiling and auditing techniques to interrogate data and identify anomalies, inconsistencies, and other problems.
• Document the findings of the assessment, including the types of issues, their impact, and the affected data sources.
3. IDENTIFY IMPROVEMENTS AND ASSIGN PRIORITIES
• Using the assessment, identify specific actions to improve data quality.
• Assign priorities to these actions according to their impact on business needs, their relationship to sustainability-related strategic objectives and the effort required to implement them.
• Consider using a data quality framework to guide setting these priorities.

4. IMPLEMENT SOLUTIONS

- Implement solutions to address the identified data-quality issues. These could include:
  - data cleansing: removing or correcting errors, duplicates, and inconsistencies
  - data validation: implementing checks and controls to ensure data adheres to predefined rules and standards
  - data consistency: establishing consistent formats and definitions for data across different systems
  - data integration: integrating data from different sources to create a unified view
  - data governance: establishing policies and procedures to ensure data quality and compliance.

5. MONITOR AND EVALUATE

- Establish data-quality metrics to track progress and measure the effectiveness of implemented solutions.
- Monitor these metrics regularly and compare them with established goals.
- Adjust the action plan as needed following the monitoring results and feedback.
- Continuously improve data quality by addressing new issues, reporting requirements and refining existing processes; ensuring that new or supplemental data components are incorporated into the framework.

6. BUILD A DATA QUALITY CULTURE

- Educate users on data-quality best practices and the importance of maintaining data accuracy.
- Promote a culture of data quality across the entity, encouraging users to identify and report issues.
- Assign data ownership and accountability for data quality.

The steps in the following paragraphs will assist in addressing some of the data quality issues.

Evaluate current data collected for appropriateness.

Establish a data-quality roadmap for sustainability-related data which includes the core principles of internal control, data ownership and governance.

Data ownership

Many roundtable participants identified data ownership as a significant issue. They highlighted the following aspects.

- Data ownership for sustainability data is often unclear, fragmented, and informally assigned.
- Many data owners are unaware of their roles or lack the necessary skills and knowledge.
- Fragmentation across departments and the value chain complicates accountability and control.
- Cultural and intra-entity barriers, including lack of leadership support, hinder effective ownership.
- Data governance frameworks for sustainability are still evolving and inconsistently applied.

Data owners who understand the rationale for internal control a nd have clear definitions of their responsibility are among the key components of effective internal control at the detailed level. An example of the roles and responsibilities of a data owner are given in Table 2.2. For many of those responsible for sustainability data these principles may be new. An education programme may be appropriate to ensure that they appreciate the responsibilities of the role.

Table 2.2: Roles and responsibilities of a data owner

ACCURACY AND RELIABILITY	Ensuring the data is correct, consistent and up to date.
ACCOUNTABILITY	Understanding not only the nature of the data but the value to the entity and the relevant compliance requirements.
INFORMATION SECURITY	Working closely with information security teams to ensure that the data is protected and access is granted to those who have a defined requirement.
DATA RETENTION POLICY	Ensuring that only data that has value to the enterprise is retained and establishing the period of relevance in line with any compliance requirements.
DATA INVENTORY	Understanding what data the entity has and where this data resides, but also how the data moves into, through and out of the entity.
CONTENT AND DISCLOSURE	Managing the risk of possessing data owned by other parties: consent and disclosure are vital, particularly in the post-General Data Protection Regulation (GDPR) world.
THIRD-PARTY CONTRACTS	Assigning responsibility for the use and misuse of data by external parties, such as vendors, that process data on behalf of the controller.

Adapted from Alvero (2020)

Ensure that the role of the data owner is clearly and consistently defined across the entity and that the role is understood to embrace sustainability-related data.

Develop an education programme for data owners throughout the process flow to ensure that they are clear in their responsibilities.

Identify data owners for each piece of data included in sustainability performance management and data flows.

How transactions are initiated and trusted data

At a detailed level, one of the most critical points in any internal control is the initiation of the data flow, the point of initial capture. For financial data it is relatively easy to define this initiation point. In contrast, for sustainability issues this point can be harder to define and may well be captured in third-party systems. A roundtable participant from Europe commented that *'if there is no clear strategy from the beginning how do you manage the process data collection process? Some data will be missed or will incorporate data that should be excluded'.*

A roundtable participant from Mauritius commented that, *'the main challenges with sustainability data* [are] *mainly about data reliability, consistency and completeness. Unlike financial data, sustainability data often comes from [a diffuse, inconsistent] system and may involve a combination of automated tools and manual inputs'.*

When considering the initiation of the data flow it is relevant to understand how the key properties of the transaction are captured and how these relate the reporting or performance-management requirement. For example, a data point might need to include:

- the date (or period) of the data captured
- a description of the data (especially relevant for identifying particular assets or asset classes in emissions, for example)
- the party concerned, if external data is relied upon
- unit of measure / price
- quantity / volume.

In any transactional flow, the integrity of the core data items is paramount.

This is then extended to ensure that all – and only – the relevant data items are captured. Paragraph A415R of the International Standard on Sustainability Assurance (ISSA 5000[10]), published by the International Auditing and Assurance Standards Board (IAASB), requires the auditor of sustainability data to refer to the following assertions, which capture this activity:

- occurrence and existence
- responsibility
- completeness
- accuracy and valuation
- cut off
- presentation, classification and understandability
- consistency (IAASB 2024).

Each of these should be considered when evaluating the internal control framework. When the data being captured was not intended to be appropriately robust for reporting and performance purposes it may well be that further analysis is needed to ensure that both the key properties of the transaction and the criteria have been appropriately addressed.

In addition, the data that must be captured is often very granular in nature and often not seen as directly linked to a sustainability-related impact. Such a link would require the accountancy and finance or internal audit professional to consider how the essential key components are captured and then, in the process flow, how the integrity of the data is maintained, especially when it is aggregated. It is also possible to challenge the data in other ways, such as benchmarking with other groups or carrying out intensity checks to assess the consistency of the output.

Establishing internal control of sustainability-related data in an appropriate manner requires a reappraisal of the techniques that are applied, owing to this data's characteristic differences from financial data. As one roundtable participant articulated, internal control is traditionally based upon double-sided entry and many aspects of sustainability data are single sided and single sourced. In many cases they are also based upon estimates and these need to be justifiable.

Ensure that data owners apply the principles of the assertions outlined in ISSA 5000 to their management of the data.

Assess each data asset to ensure that the key components of the data set are captured in a timely manner.

10 A commentary on the practical implementation of ISSA 5000 is available in ACCA 2025.

Poorly defined process flows

Financial processes in entities have long had a defined purpose and there are applications that support the management of this data. The principles of data management and integrity, as well as key control attributes such as segregation of duties, are embedded into core functionality. For many entities, the same cannot be said of sustainability data[11] The feedback from the roundtable participants was that they were often dealing with informal systems and ad hoc applications. While the activity chains may be shorter, the risks may well be greater.

Figure 2.4: To what extent has your organisation documented the process flows for key sustainability data? (n = 816)

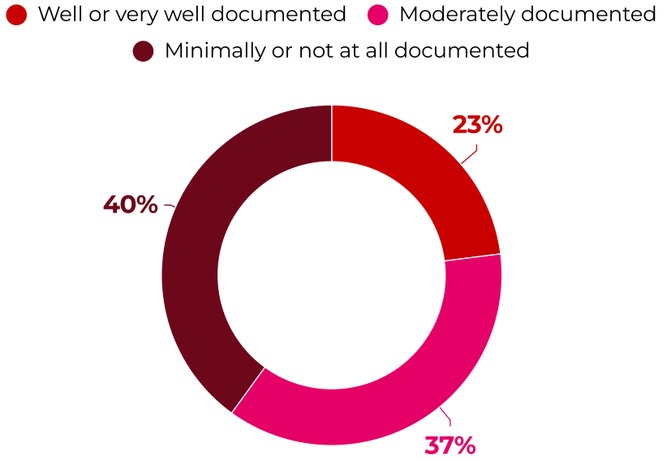


Figure 2.4 shows the assessment of the survey respondents of the quality of the process documentation in their entity.

A roundtable participant in the Caribbean commented that: *'I think with finance becoming more involved in understanding the data and resource and accuracy and completeness of the data* [the approach] *has thrown up quite a lot of exceptions. I have a client who has had to go and re-look at all their data because even though they had third-party validation* [of its] *accuracy and completeness and the source, [the question] 'where is that data coming from?' was never really asked and that has thrown up* [issues]*. I think that... you can have as many controls as you want, depending on how big your business* [but are] *you going to test all the factories? Are you going to test every month,* [which] *is a huge volume? So how do you get a reasonable process? And there must be some sort of guidance'.*

A roundtable participant from the US commented: *'I always worry when we look at the data life cycle overall,* [right] *from when data is authored,* [to see whether] *it is internal or it is pulled in from an external source, all the way through the process to validation analysis, reporting, communication'.*

Evaluate the effectiveness of the current processes related to sustainability data, especially those processes related to high-risk or high-impact data.

Remediate any issues identified in the process flow.

Maintain documentation for these flows and test key controls on a regular basis.

11 ACCA has developed practical guidance on the collection and management of sustainability-related data (ACCA 2024).

Skills and resources

Among the survey respondents, 56% identified that a lack of skills and knowledge and equally a lack of resources were either high or very high-impact challenges (Figure 2.2). This was also a significant theme in the conversation among the roundtable participants who highlighted several dimensions to the skills gap, as follows.

- **Lack of sustainability expertise:** many entities lack staff with deep sustainability knowledge. Audit committees and internal audit teams often do not have members with the right expertise to ask critical questions about sustainability data, echoing earlier challenges seen in areas such as cybersecurity.
- **Limited training and upskilling:** there is a shortage of structured training and upskilling opportunities. While some entities, particularly larger ones or those in regulated sectors, are investing in training, many others rely on ad hoc learning or expect staff to 'pick up' sustainability knowledge on the job.
- **Overreliance on volunteers or unqualified staff:** in several cases, sustainability data collection and reporting are assigned to staff who have shown interest or have been 'volunteered' by management, rather than those with relevant qualifications. This leads to inconsistent approaches and a lack of thoroughness.
- **Difficulty keeping pace with evolving standards:** The rapidly changing landscape of sustainability standards and frameworks requires continuous learning and adaptability. Roundtable participants highlighted the need for continuous professional development and the challenge of keeping up with new requirements.

The roundtable participants argued that the resource limitations were equally pronounced. They highlighted the following areas.

- **Insufficient dedicated staff:** many entities do not have dedicated sustainability teams. Instead, responsibility is often distributed across departments, with sustainability tasks added to existing workloads. This problem is particularly acute in smaller entities and in regions where sustainability reporting is less mature.
- **Lack of investment in systems and tools:** the dataset reveals a heavy reliance on manual processes and spreadsheets, with limited adoption of automated or integrated data management systems. This is attributed both to budget constraints and to the nascent state of sustainability data-management technology.
- **Leadership and cultural barriers:** the absence of strong leadership support and a culture that places a high priority on sustainability data quality further exacerbates resource challenges. Without commitment from senior leadership, it is difficult to secure the necessary investment in people, training and technology.

In a time of focus on resource-use and productivity in entities, simply suggesting hiring more staff is not always the answer. Yet entities need to give ultimate responsibility to people with relevant knowledge who work at the intersection of the sustainability and internal control domains.

As effective internal control requires the combination of each of the three lines in The IIA model, the skill conversation needs to be had across each of the three lines in combination. Each line cannot be treated in isolation or uniquely. Achieving this presents the challenge of attracting those with the appropriate blend of skills, as a roundtable participant from the UK noted. *'How many ESG people or sustainability people are there out there? Every firm is not going to have one because there just are not the people. There is a structural* [aspect] *here as well, as people are no doubt doing it on the side of their desk, probably in the finance team because somebody shows a bit of interest in sustainability and they can be the sustainability* [officer]. *That person does not just liaise with the finance team. They have got to liaise with all* [parts] *of the business and there will be people in those other areas who don't know anything about sustainability'.*

Undertake a skills analysis in relation to sustainability and internal control across the entity to identify the key roles and skill sets needed in each of the three lines.

Conduct focused upskilling of individuals in sustainability and internal control knowledge relevant to their roles, potentially involving people working on financially-based internal controls who can help to give awareness and support to this new population of internal control owners.

Ensure that support is available to develop these skills continually.

Entities who cannot support full-time roles could consider the use of 'as-a-service' resources to address skill gaps.

Third-party data

It is important to appreciate that third-party data is integral to sustainability reporting, especially as entities increasingly need to account for impacts and activities beyond their direct operations. This is particularly relevant in areas such as Scope 3 emissions, supply-chain working practices, and community impacts. This requires that entities must often collect data from suppliers, vendors and other external partners in their value networks to meet performance management and disclosure requirements and stakeholder expectations.

A recurring theme in the roundtable discussions was the difficulty of ensuring the quality, consistency and verifiability of third-party data. In contrast to financial data, third-party data often comes from diffuse, inconsistent systems and may involve a mix of manual and automated processes. This introduces risks of inaccuracy, incompleteness, and misalignment with the entity's own internal definitions or reporting boundaries. For example, the fragmentation of data sources creates complexities for traceability and confidence in data reliability, especially when data is sourced from multiple geographies with varying levels of maturity and awareness.

A major concern among the roundtable participants was the difficulty of verifying and assuring third-party data. They commented that entities frequently lack direct oversight of how third-party data is collected, processed and reported. The lack of consistent processes and controls at third parties means that they must often rely on trust or seek additional validation, which can be resource-intensive and may not fully mitigate the risk of misstatement. Some went as far as suggesting a trust-based certification for third-party data similar to the SOC 2 and 3 frameworks developed by the American Institute of Certified Public Accountants (AICPA) for larger entities, including utilities.

Some entities are beginning to address these challenges through technology and process improvements. For example, they use application programming interfaces (APIs) and automated data feeds from third-party vendors to improve data integration, traceability and auditability. In practice, adoption is uneven, and many entities still rely on manual processes and informal data exchanges, which limit the effectiveness of internal controls.

- Establish a set of assessment criteria for the evaluation of third-party data upon which significant reliance is placed, to assess the risk and likelihood of misstatement to ensure that the data is appropriately controlled.
- Deliver an awareness course to those interacting with third parties to explain how trust in data flows needs to be established.
- Consider any updates required to supplier codes of conduct in relation to data used for sustainability performance management and reporting, including establishing requirements for desired levels of internal control over sustainability-related data.

Internal culture

There is a consistent message across all the roundtable participants that that an entity's internal culture is fundamentally shaped by leadership. The 'tone at the top' – the attitudes, priorities, and actions of senior management and boards – sets the foundation for whether sustainability and internal control are taken seriously throughout the entity.[12] Among the survey respondents in this research, 45% identified this as a high, or very high, risk.

A strong internal culture can be both a barrier and an enabler. On one hand, a strong culture of control and accountability can drive the successful integration of sustainability into business strategy and reporting. On the other, a culture that views sustainability as a compliance exercise or a 'box-ticking' activity undermines genuine progress. A roundtable participant from the UK cautioned even further by adding *'it depends on the culture, not only across the business, but different parts of the business will have different sustainability appetites and different sustainability cultures, depending upon who is the managing director'.*

The entity's internal culture needs to reflect the strategic drive for sustainability (as illustrated in Figure 1.1). An approach that is driven solely by external reporting will lack focus in achieving strategic objectives, which in turn will fail to cascade down to lower-level performance-management objectives. A bottom-up approach (driving from lower-level reportable data) will inevitably lack focus but also increase the risk of misstatement as importance and relevance are not clearly established.

An effective 'tone at the top' is essential in establishing effective internal control throughout the three lines. Without a culture that values control and accountability at every level, the model cannot function as intended. The first line – operational management – must 'create that culture of driving the sustainability strategy', or subsequent lines will be ineffective.

Establish an effective internal culture which aligns to strategic sustainability objectives.

Lack of focused applications

While the applications market for financial systems is relatively well developed, the same cannot be said for sustainability-related software where the applications available are often more niche in nature, typically focusing on one element of the sustainability agenda, and the overall aggregation of data is frequently managed through spreadsheets. This was exemplified by a roundtable participant from the UK who commented that, *'where many companies have made* [the] *investment* [in understanding sustainability], *...sustainability data tends to be collected and aggregated and* [interrogated] *in spreadsheets, ...that has all the challenges for internal control that you and I would appreciate. That becomes spreadsheets building upon spreadsheets, building upon spreadsheets. Somewhere the truth, however one might define it, ... gets diluted through that process.'*

Until such time as the software marketplace has evolved, spreadsheets, as an example of end-user computing, will remain paramount. These are difficult to manage from an internal control perspective. The methods associated with development controls and testing, while potentially overly complicated, are traditionally not applied even in a more simplified form.

In establishing an appropriate level of internal control, the principles of IT general controls and end-user computing controls should not be ignored, as explored in earlier ACCA / IIA / IMA research (2022).

Ensure that IT general controls are applied to any sustainability-related applications.

Ensure that guidance on end-user computing is applied to sustainability-reporting-related spreadsheets and databases in a similar manner to those used for finance-related data.

'Any process that requires data collection and evaluation requires strong internal controls. Only through control can we have confidence about the integrity of the data and hence the reliance we can place on that data in the decision-making process. There is NO excuse for a lack of solid internal control and guidance.'

ACCA / IIA survey respondent from the UK

12 It should be noted that in ACCA 2023b approximately two-thirds of the survey respondents indicated that, in their view, the concept of 'tone at the top' had lost its meaning.

3. Practical steps in the effective implementation

'I see several opportunities to strengthen internal control in sustainability data. You can improve the controls or the reliability of data by implementing automation system such as ...digital tools and sensors to automate data collection, which can reduce error and increase efficiency.'

Roundtable participant from South Asia

3.1 Overview

It has been established in the previous chapters that there are both opportunities and risks for entities in implementing and maintaining an effective regime of internal controls over sustainability data. This chapter, using the COSO model (see Figure A1 in Appendix 1) as a reference, explores how entities can seek to implement an effective internal control framework for this data set. Nonetheless, it should be noted that viewing any one data set as unique is counter to the overall intention of internal control. Rather, the discussion should be viewed as developing a sustainability-data-related component of an overall entity-wide system of internal control.

A roundtable participant in Mauritius exemplified this point by commenting that *'sustainability reporting should be built on a strategically crafted system of internal control* [in conjunction with] *financial reporting. Yet in practice, we often observe gaps such as inconsistent information,* [differences between] *definition of metrics across departments and* [lack of] *clear ownership of data points or lack of documentation on data sources'.*

Developing and maintaining internal control is an on-going and iterative process. The steps are outlined in Figure 3.1.

Figure 3.1: Steps to implement effective internal control

3.2 Control environment

This is the foundation upon which all other internal control components are built. It encompasses the entity's culture, ethical values, and overall attitude towards risk and control.

In establishing effective internal control, an inherent challenge is that the recording of data reflects the past and present. Sustainability is forward-looking while much of our approach to the control environment level is through this past and present data. This creates challenges from the control environment down. Establishing an effective control environment which embraces sustainability is essential.

A roundtable participant from Europe commented that *'if* [the] *governance system doesn't work, then this control activity will not work. Risk assessment will not work. These are interrelated'.*

A roundtable participant from Mauritius explained that there is a need to *'tackle the root cause. We need to get back to governance. The governance part is very important. When we say "tone-from-the-top"* [we mean] *from the board to top management, from top management to the different heads in an* [entity], *... cascading down. Because when we speak about the concept of internal controls of sustainability data,* [we must] *treat the source of that data, because the data comes from a process and that process needs to have the adequate controls so that we have quality data being input in the whole system. Then this... feeds into our reporting. I am a firm believer that governance is the first pillar to be set right, along with the right structure and* [management] *to cascade down that governance.'*

A key element of the control environment and the risk analysis components is to ensure that an effective materiality analysis is undertaken. This may be a complex process, as one roundtable participant commented, '*I think there are few* [entities] *that have even started on controls let alone completed the robust materiality analysis. I think it is an area where capabilities are needed in terms of how to do it: sharing knowledge to ensure that there is a bit more understanding of the practical aspects of it, because these standards give you the principle-based approach [derived from] the framework'.*

An effective control environment, overlayed with specific sustainability-related actions requires the following components.

- **Integrity and ethical values:** management and employees demonstrate a commitment to ethical personal conduct and integrity in all actions. In the context of sustainability, this requires a shared vision of the impact on the entity and the strategic objectives of addressing these impacts. This needs to be clearly communicated and incorporated into performance measures.
- **Commitment to competence:** the entity attracts, develops, and retains competent individuals who understand their roles and responsibilities, especially, in this context, those charged with sustainability-related roles. It also ensures that those who are supporting, but not directly leading, sustainability-related activities have an appropriate depth of knowledge.
- **Board oversight:** the board of directors provides independent oversight of internal controls and ensures management is accountable. This requires the board to have sufficient knowledge and competence in these issues to provide the necessary thoroughness in their assessments.
- **Management philosophy and operating style:** management's approach to risk management and internal controls influences the overall control environment, including that related to sustainability. Sustainability should be seen as an integral part of the operating style, not a separate or unique activity.
- **Entity structure:** the structure, reporting lines, and delegation of authority are clearly defined and communicated, including in relation to sustainability and internal control.

Establishing an effective control environment requires the following actions.

Establish an effective 'tone at the top' that embraces sustainability data by demonstrating board and executive-level leadership to the achievement of defined objectives and strategic outcomes.

Ensure that governance structures are aligned to sustainability outcomes with regular reporting and review of KPIs and assessment of risks.

Members of both the board and executive levels should have defined responsibility for sustainability-related objectives. These individuals should have sufficient knowledge of the issues in the context of the entity and its sector to be able to assess risks and instigate corrective actions, as required.

Conduct a robust materiality analysis in respect of sustainability data.

3.3 Risk assessment

The process of identifying, investigating and responding to risks that may affect an entity's ability to achieve its objectives.

A roundtable participant from the UK commented that *'if* [sustainability is] *embedded within your risk frameworks, then* [it] *becomes* [an entity-wide] *risk. All the* [required] *data sets or that specific data becomes a risk within that area that* [managers] *know* [that the entity needs] *to manage. It makes it much more business-as-usual and living and breathing within the* [entity]. [This implies] *proper ownership, proper accountabilities and embedding it within your risk framework and not having it stand totally alone outside of that.'*

Having an effective risk culture[13] based upon a robust assessment is essential for any entity. Sustainability is, for most entities, a significant business risk and its inclusion in the risk assessments is a necessity. The feedback from the roundtable participants included the following.

- Risk assessment is essential for identifying critical data and designing controls, but the level of maturity in relation to sustainability is low as there is a lack of data for assessing the impact and entities are missing the benchmark and historical data needed for assessing the materiality of these impacts.
- Integration with ERM is emerging but not universal; as a result, sustainability-related risks are often siloed.
- Materiality and double materiality assessments[14] are seen as essential tools in risk management, but they are challenging to implement consistently.
- There is a lack of skills, resources, and clear processes assessing sustainability-related risks.
- Entities are often too reliant upon external assurance and advisory support to strengthen risk assessment practices, owing to a lack of internal expertise.

Ensure that sustainability-related risks, including risks related to greenwashing, risk mitigations, are included in enterprise-level risk assessment.

Strengthen the entity's internal risk-assessment capabilities for sustainability issues, such as adding science-based technical know-how to either risk or internal audit capabilities.

Ensure that formal ownership of the management of sustainability-related risks is ascribed to one or more individuals who can act appropriately and in a timely manner.

Ensure that the internal audit workplan includes sustainability-related risks and that priorities are assigned on an equitable basis.

13 The adoption of an effective risk culture in an entity is considered in ACCA 2023b.

14 The approach to materiality and double materiality in connection with The Three Lines model is considered in WBCSD /The IIA 2025.

3.4 Control activities

The actions, policies, and procedures put in place to mitigate risks and ensure that management's directives are carried out, helping to achieve the entity's objectives.

Once the level of risk has been assessed, and the likelihood that each risk will manifest and its impact has been determined, detailed level control activities can be implemented. In a financial process data is aggregated as it passes along the process flow, such that the integrity of the data can be evidenced from detective controls later in the process. This to an extent obviates the need to assess all specific controls individually, if data capture can be assured. Sustainability data varies in nature. The categories are often more granular and less aggregation is possible than for financial data (for example, gender pay-gap statistics may be summed to provide a group-level total, but they are not aggregated with ethnicity data to provide an overall picture) and data can also be less structured, making process-level controls more challenging to implement.

Therefore, sustainability-related controls often operate at a more detailed level and the process flows are often shorter in nature before the data is recorded in the 'final' system before reporting.

Control activities can be divided into three groups:

- **preventative** – those designed to prevent errors or mistakes from occurring
- **detective** – those designed to detect errors or mistakes once they have occurred
- **corrective** – those designed to instigate corrective actions once an error or mistake has occurred.

These categories can be further divided into specific control types as outlined in Table 3.1 below, which builds upon the typical financial- and technology-based controls to provide illustrative examples directly related to sustainability data. Each data object and flow will fall into different combinations of each of these control categories, according to the respective risks and materiality of the flow.

Table 3.1: Types of control activities and examples in relation to sustainability

	CATEGORY OF INTERNAL CONTROL	EXAMPLE IN RELATION TO SUSTAINABILITY
PREVENTATIVE	Segregation of duties	Separation of responsibilities between those in procurement roles and those monitoring emissions.
	Access – digital	Restricting logical access to the internet of things (IoT) devices collecting emissions data.
	Access – physical	Restricting physical access to IoT devices collecting emissions data.
	Authorisation	Integrating emissions criteria into travel approval processes as well as finance-based criteria.

	CATEGORY OF INTERNAL CONTROL	EXAMPLE IN RELATION TO SUSTAINABILITY
DETECTIVE	Reconciliation	Reconciliation of energy consumption data reported in the sustainability report with utility bills.
	Accountability	Assigning to specific individuals or teams the responsibility for monitoring and reporting on sustainability metrics, with clear lines of authority and consequences for non-compliance.
	Audits	Internal audit team testing the design and operating effectiveness of controls related to supply-chain management, supplier performance and other sustainability-related activities.

	CATEGORY OF INTERNAL CONTROL	EXAMPLE IN RELATION TO SUSTAINABILITY
CORRECTIVE	Corrective actions	Investigating variances between forecast and actual emissions, such as in vehicles, and instigating follow-up actions.
	Policy	Setting SMART[15] objectives for carbon reduction.
	Training and education	Performance evaluations, including specific sustainability -related objectives.

Sustainability data lends itself to the adoption of continuous control-monitoring techniques using sensors to facilitate the real-time tracking of water quality, air quality, energy consumption, waste generation, and biodiversity indicators, for example. This increasingly includes the use of AI-enabled models to predict more complex impacts.[16] The nature of sustainability-related data is such that it can be more continuous than financial data. A roundtable participant from the US commented, *'I think you know how to automate as much of the testing and analytics and use of sensors as possible. Perhaps AI is entering into that'.*

There can, however, be a tendency to 'over-control', especially where, as accountancy and finance professionals, or internal auditors, we are uncertain as to the nature of the process or the provenance of the data. Control activities must always be proportionate to the risk.

Process owners and those responsible for data governance document and evaluate the process flows in relation to sustainability data, identifying key control points and defining and implementing appropriate controls.

Process owners and those responsible for governance should investigate the use of automated and/or continuous and proactive controls including the use of AI models for pattern recognition with sustainability-related data.

15 SMART is an acronym for Specific, Measurable, Achievable, Relevant and Time-bound criteria in an objective.

16 IIA Spain have published an in-depth examination of the impact of AI's integration into Internal Audit (IIA Spain 2025).

3.5 Information and communication

The processes by which relevant and quality information is identified, captured, and communicated to the right people within and outside the entity, enabling them to carry out their internal control responsibilities effectively.

The process of informing and communicating is potentially the cornerstone of internal controls. Ensuring that the right information is provided to the right individual at the right time so that action can be taken is an essential component. Controls can fail when information is communicated but relevant action is not taken, for whatever reason.

There are two key components in this control, the process and the application. The commentary provided by the roundtable participants suggested that entities are generally in the development phase in both areas. Both fragmented data flows and a lack of clear data ownership can undermine the effectiveness of this control component.

In situations where the data quality is still maturing, the effectiveness of information and communication controls can be reduced. This can exacerbate another problem that was highlighted by the roundtable participants, which was the lack of appropriate technical knowledge of those in decision-making positions, particularly at more senior levels in entities. Information and communication controls are reliant upon key individuals being appropriately skilled. An over-reliance on one or two key individuals can create a control weakness.

Ensure that the right information is being communicated to appropriately skilled individuals to ensure control effectiveness.

Develop learning courses for those charged with control activities who might not have the appropriate appreciation of sustainability-related risks.

Ensure that data ownership is clearly defined.

Ensure that the information systems are sufficient robust to address the related risks.

3.6 Monitoring

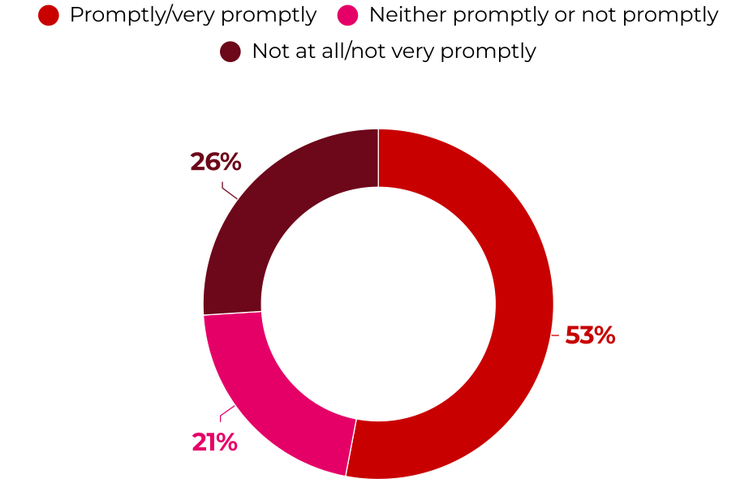
The process that assesses the quality of internal control performance over time.

The monitoring component of the COSO framework ensures that controls are effective and that sustainability objectives are being met. There are two core principles of monitoring.

- Entities should conduct continuous and/or separate evaluations to verify that the components of internal control are present and functioning.
- Deficiencies should be communicated to the parties responsible promptly.

The survey respondents were asked whether their entity rapidly evaluated and remediate control deficiencies in sustainability-related data collection (Figure 3.2); just over half said that they did. The implication of such a result is that the respondents believe that this control component is operating effectively, yet, as has been seen in Figure 2.1, just over one-quarter rated their controls highly or very highly adequate. A potential inference, therefore, is that where controls are believed to exist and issues occur, the remediation is effective, yet there may not be an effective set of controls in the first instance. In turn. This implies that any complacency may be ill-founded.

Figure 3.2: In your organisation, when control deficiencies are identified in relation to sustainability data, how rapidly are they evaluated and remediated? (n=734)



3.7 Implications for each of the three lines

There are several implications to consider for each of the three lines in The IIA's model (see section 1.4). The roundtable participants highlighted several challenges in each of the three lines as detailed in Table 3.2 which may require an adaptation of the Three Lines Model in this context.

Table 3.2: Current issues and potential actions for each line in The IIA's Three Lines Model

LINE		CURRENT ISSUES	POTENTIAL ACTIONS
GOVERNING BODY		• Lack of understanding and expertise • Sustainability not in focus and not aligned with strategic objectives • Failure to provide 'tone at the top' • Lack of alignment with overall entity-wide risk culture • Obstacles in place prevent integration of sustainability-related risks into overall risk assessment by governing body	• Conduct awareness and upskilling activities • Ensure that at least one member of the governing body has responsibility for sustainability • Ensure that entity-level culture and values include sustainability • Include sustainability-related impacts and outcomes in all strategic objectives • Include sustainability-related outcomes in internal communication initiatives • Consider a multi-capital approach to cashflow[17] • Ensure that the internal audit function is appropriately resourced
MANAGEMENT	First line roles	• Lack of control experience • Data poorly codified • Strong reliance on third parties	• Undertake materiality assessment that informs ERM assessments • Conduct internal-control upskilling activities for those responsible for sustainability-related data • Ensure that control consciousness is part of the first-line role descriptions • Ensure that data is appropriately classified and remedial action is taken to ensure that control objectives are met • Ensure that supplier codes of conduct include control-objectives for sustainability-related data

17 The concept of leading in a multi-capital approach is considered in ACCA 2023c.

LINE		CURRENT ISSUES	POTENTIAL ACTIONS
MANAGEMENT	Second line roles	• Lack of control / sustainability experience • Business focus not on measurement of sustainability risk • Sustainability not an entirely finance role • Lack of performance management metrics for monitoring sustainability-related objectives • Lack of alignment between operational and strategic management in setting priorities for sustainability-related risks	• Conduct internal control upskilling activities for those responsible for sustainability-related data • Ensure that sustainability-related KPIs are in place and monitored with corrective action as appropriate
INTERNAL AUDIT	Third line roles	• Lack of sustainability recognition in entity-wide risk assessment • Low priority on audit workplan • Lack of expertise • Poor data availability • Lack of guidance and standards • Lack of collaboration with external auditors to provide assurance on sustainability-related data • Need to be able to provide advice on adequacy of processes to collect relevant data for decision-making	• Sustainability-related entity-level risks should be appropriately quantified and included in risk assessments and workplan developments • Monitor the reliability of sustainability-related data collection and internal control processes • Ensure that internal audit has appropriate resources (or sub-contract as required) to conduct relevant work • Use tools such as The IIA's 'Assessing Sustainability Readiness' toolkit[18] to assess the entity's approach to sustainability-related risks • Investigate how continuous auditing techniques, including the use of AI enabled tools, can be applied to this data set • Ensure regular interactions between internal auditors and first- and second-line roles.

The following paragraphs consider the implications for each of the lines in The IIA model.

Management: first line

The first line is both the bedrock and the potential weak link in sustainability data management. Its role is evolving in relation to this agenda, and its effectiveness depends on clear governance, strategic alignment, and continued investment in skills and process maturity. The key observations for the first line are as follows.

- The first line is the primary source and owner of sustainability data, responsible for its initial capture, quality, and documentation.
- Data collection is often carried out by different people, with varying levels of process maturity and control, leading to challenges in reliability and consistency.
- Clear data ownership, robust governance, and capacity building are essential for effective first-line performance.
- The first line's role is both operational and cultural, requiring alignment with the entity's strategy and leadership commitment.
- The effectiveness of the first line directly influences the ability of the second and third lines to provide assurance and meet external reporting requirements.
- The implementation of effective detailed-level controls is essential, as well as of information and communication higher-level controls.

18 The toolkit can be accessed only by The IIA's members at <https://www.theiia.org/en/standards/2024-standards/standards-knowledge-center/tools--resources/iia-audit-tool-assessing-sustainability-readiness/>

Management: second line

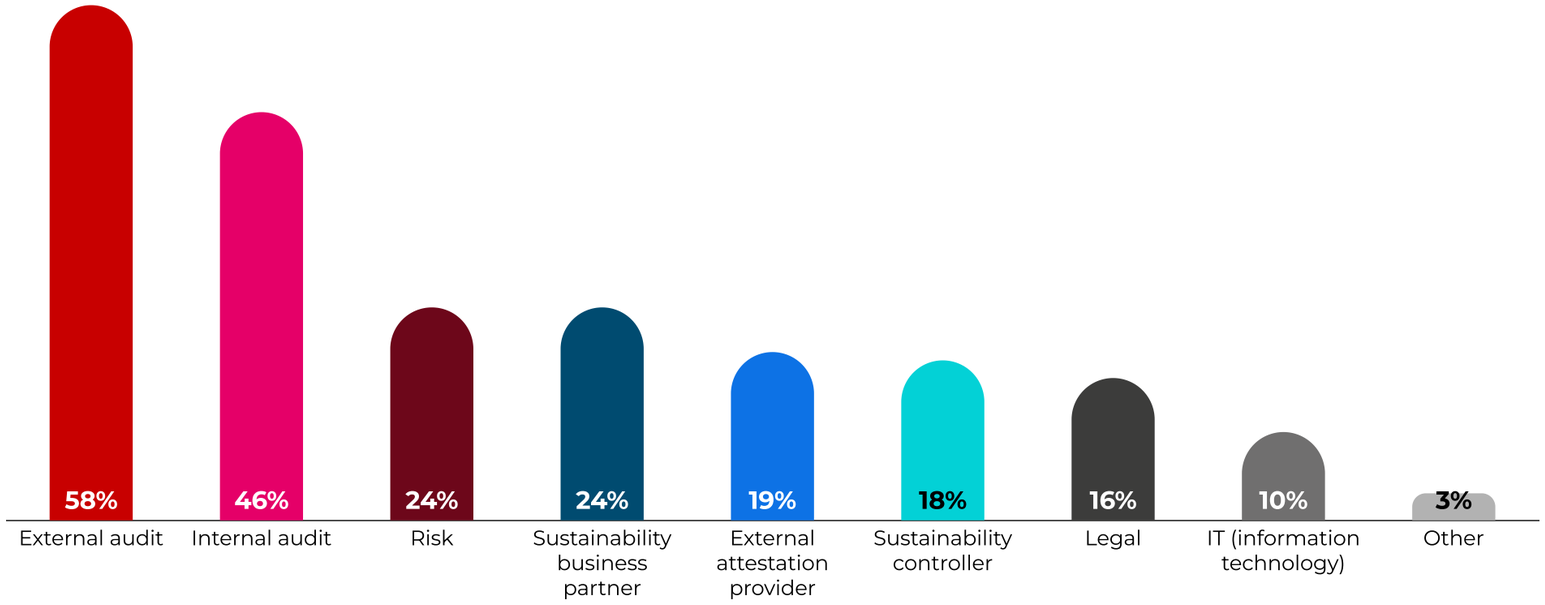
The second line is both a guardian and an enabler in the sustainability data landscape. Its effectiveness is essential for embedding robust controls, supporting the first line, and ensuring that entities are ready for the demands of external assurance and stakeholder scrutiny. The key concerns for the second line are as follows.

- The second line is a key architect and enabler of internal control frameworks for sustainability data.
- It provides monitoring, oversight and quality assurance, ensuring data integrity and consistency.
- It aggregates data from different first line sources and is able to conduct an internal benchmark and integrity checks between the entities.
- The second line facilitates cross-functional collaboration, clarifies data ownership, and supports capacity building.
- It plays a crucial role in bridging the gap between ambition and actual control adequacy.
- The second line prepares entities for external assurance and regulatory compliance, underpinning the credibility of sustainability reporting.

Internal audit: third line

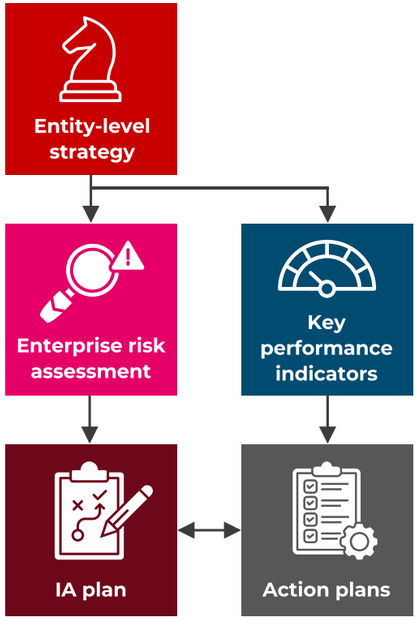
To establish a perspective on the responsibilities of those who might be undertaking reviews of an entity's sustainability-related data, the respondents were asked to indicate which groups conduct reviews. The results (Figure 3.3) show that the most significant group was external audit (they were not asked whether their work was conducted for advisory or compliance reasons, but an external attestation provider, who would probably be different from the external auditor of the entity, also scored significantly) and internal audit.

Figure 3.3: Who conducts reviews of your organisation's sustainability reports? (Choose all that apply) [Shown if some or all sustainability reports are reviewed, prior question response] (n=389)



The potential role of the internal audit function in relation to sustainability data is outlined in Figure 3.4.

Figure 3.4: The role of internal audit in sustainability data



The importance of the entity-level strategy in creating action towards meeting the sustainability objectives has already been established in sections 1.1 and 2.2. It has also been commented in section 3.3 that the enterprise risk assessment should embrace sustainability objectives, which in turn leads to the internal audit plan. That plan should embrace sustainability-related risks and inform corporate strategy.

As one internal auditor from the UK commented in a roundtable: *'internal audit has to make sure that they have the right to ask the questions on internal controls over sustainability data'.* A second roundtable participant followed on from this comment by adding that: *'what I have personally seen in my... financial institution, is that when climate and ESG became topical five years ago, or maybe more than that, the* [entity] *did not see sustainability or climate as a something new; it was just new risk factor that could easily be captured or encompassed in* [the] *existing risk-management framework or strategy. But as time moves on, I think probably this has been proven to be not correct. There is discussion as we speak about what sustainability risk is. Traditionally, financial institutions, when they think about strategy, they think about financial implications. But what sustainability and climate ...bring new to the picture is that we must be a lot more precise about the non-financial risk, which is a lot more relevant for sustainability, and this is less quantitative, it is more qualitative. So how do you define a qualitative strategy in line with the overall strategy, which is mostly about revenue, about capital, about liquidity and so forth? Now we have a different concept called a net zero type of strategy. How do you fit that in?'*

The readiness of the control environment, including detailed level controls, means that until these frameworks become more developed, internal audit is increasingly expected to move beyond compliance checking to act as a strategic partner in sustainability. This includes acting in the following ways.

- Advisory and consultative functions: internal audit can help entities interpret and implement sustainability frameworks, conduct materiality and risk assessments, and prepare for external assurance.
- Capacity building: internal audit functions are seen as instrumental in building entity-wide capacity, training staff, and fostering cross-functional integration to break down silos between sustainability, finance and operations.
- Driving continuous improvement: by identifying gaps and recommending enhancements, internal audit supports the maturation of sustainability data processes and controls.

Internal audit functions have an important role in internal control over sustainability data.

- They are crucial for advising on the assessment and improvement in data quality, consistency and accuracy as well as governance and control processes.
- The function helps prepare entities for external assurance and supports the transition from ad hoc to more structured, robust control environments.
- Internal audit should make the link with financial data when needed and challenge or confirm sustainability data.
- The role is expanding from traditional areas of assurance to broader, consultative support for non-financial data, requiring upskilling and greater cross-functional engagement.
- The roundtable contributors indicate that internal audit is perceived as facing challenges due to limited expertise, lack of clear ownership and insufficient integration of sustainability into audit plans and board agendas.
- Internal audit's success depends on strong governance, leadership commitment, and embedding sustainability controls within core business processes, not treating them as separate or secondary.

In 2021 The IIA published a report on the role of internal audit in ESG reporting (The IIA 2021), which concluded that *'what is clear is that strong governance over ESG – as with effective governance overall – requires alignment among the principal players as outlined in The IIA Three Lines Model. As with any risk area, internal audit should be well-positioned to support the governing body and management with objective assurance, insights, and advice on ESG matters.'*

A roundtable participant in Mauritius commented that: *'internal auditors would have a very great opportunity to prepare entities for external assurance going forward, because external assurance is a big exercise.'*

An internal audit roundtable participant from Europe commented that: *'the role of internal audit is expanding very rapidly. I can see that we in the risk management and internal audit* [functions] *are increasingly expected to provide assurance of non-financial data. While we do have some tools, the methodology for testing ESG* [is] *in the early stage when it comes to having simply broader acceptance.'*

A roundtable participant from Mauritius commented that *'if I had to see the challenge from an internal auditor's perspective,* [there is a] *need to understand these frameworks to assess whether disclosures are accurate, complete, and aligned with stakeholders' expectations.'*

A roundtable participant from the UK commented that from the perspective of their internal audit team they *'fundamentally see this as a data problem, not necessarily a sustainability problem. So, we have tried to remove [it from that], almost taking the ESG out* [of the] *process and just treating it the same way we treat any other data.'*

Internal audit, as the third line, is both a guardian and an enabler in the sustainability data landscape – tasked with providing assurance, which drives improvement, and supporting the entity's journey toward robust, credible sustainability reporting.

Where internal controls are still being developed over sustainability-related data, internal audit should consider acting in an advisory capacity, using their skills and experience to help shape appropriate controls.

Internal audit should be involved in testing the implementation plan at its different phases, using a maturity model to provide assurance over the plan's progress.

Ensure that there are appropriate resources, or access to appropriate external expertise (including areas such science-based targets and social risks), such that the internal audit team can discharge their responsibilities in relation to sustainability-related risks.

Internal audit should advise audit committees whether, in their view, controls over sustainability-related data are sufficiently robust and whether entity-level risks are being appropriately addressed.

Conclusion.

‘The main challenges with sustainability data are mainly about data reliability, consistency and completeness. Unlike financial data, sustainability data often comes from decentralised, non-standard systems and may involve a combination of automated tools and manual inputs. This raises the risk of inaccurate reporting or misalignment with corporate sustainability commitments.’

Roundtable participant from Mauritius

One of the most substantial and long-term problems that entities face is developing and implementing an effective operating model which has a long-term sustainable future. This future must embrace environmental protection, social equity and economic viability. This transformation is a substantial one, especially if it is to be achieved in alignment with the goals set out in the Paris Climate Agreement in 2015 (UN 2015).

Entities must focus on this in setting their strategic objectives. They should not allow their goals to be compromised by the inevitable short-term considerations of the world in the late 2020s.

Accountancy, finance and internal audit professionals have a vital role to play in ensuring that these strategic objectives are reflected in the performance management and external reporting processes and that the data presented is robust and, as far as is practical, accurate.

This report has demonstrated that this remains a journey. Many entities need to take key actions to ensure the data quality, ownership and control. The sustainability imperative continues to evolve and so will the importance of internal control within this. It is an opportunity for accountancy, finance and internal audit professionals to demonstrate their expertise in driving the production of trusted and reliable information, to the benefit of people, performance and the planet. The opportunity here for accountancy, finance and internal audit professionals to engage in the sustainability-related agenda and deliver strategically important and meaningful work and make a strong contribution to sustainable businesses.

Appendix 1. Internal control and sustainability – how they are defined

Internal control

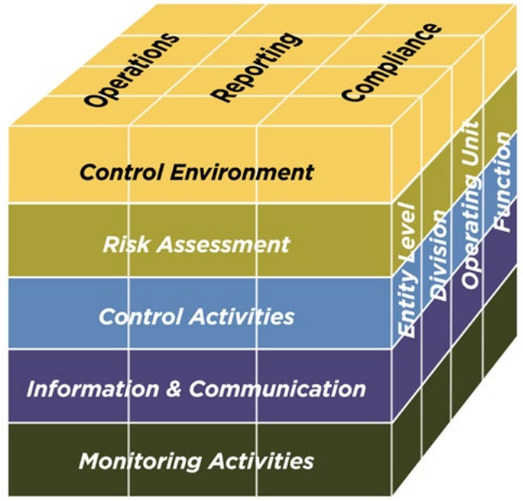
The term 'internal control' was first defined by the American Institute of Accountants (now AICPA) in 1949. The Institute further refined this definition in 1958 and 1972 (Lauren 2017).

The definition offered was:

'Internal control comprises the plan of organization and all of the coordinated methods and measures adopted within a business to safeguard its assets, check the accuracy and reliability of its accounting data, promote operational efficiency, and encourage adherence to prescribed managerial policies' (cited in Heier et al. 2005).

A series of corporate challenges in the 1970s led the US Securities and Exchange Commission (SEC) and the US Congress to enact the Foreign Corrupt Practices Act in 1977. As a response to this, several entities in the US, including The IIA, worked together under the chair of James C. Treadway, Jr., then executive vice president and general counsel at Paine Webber and former commissioner of the SEC, to develop a framework for internal control. The Committee of Sponsoring Organizations of the Treadway Commission (commonly known as COSO) developed its framework, which was updated in 2013. A summary of the COSO internal control – integrated framework is shown in Figure A1.

Figure A1: The COSO model internal control – integrated framework



Source: COSO (2013)

The 2013 revision to the framework provides the following updated definition.

Internal control is a process, effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives relating to operations, reporting and compliance.

This definition reflects certain fundamental concepts. Internal control is:

- Geared to the achievement of objectives in one or more categories – operations, reporting and compliance
- A process consisting of ongoing tasks and activities – a means to an end not an end in itself
- Effected by people – not merely about policy and procedure manuals, systems and forms, but about people and the actions that they take at every level of an organization to effect internal control
- Able to provide reasonable assurance – but not absolute assurance, to an entity's senior management and board of directors
- Adaptable to the entity structure – flexible in application for the entire entity or a particular subsidiary, division, operating unit or business process.

Source: COSO (2013)

As noted, the 2013 COSO 'Internal Control – Integrated Framework' has five components (Control Environment; Risk Assessment; Control Activities; Information and Communication; and Monitoring), with the last component being particularly important in supporting agility, timeliness and automation in a rapidly changing and disrupted business environment.

The COSO framework also has 17 principles (Figure A2). Generally, for internal controls to be effective, these principles must be present, functioning and integrated.

In updating the 1992 landmark internal control framework, the COSO 2013 framework was enhanced by expanding the financial reporting category of objectives to include other important forms of reporting, such as non-financial and internal reporting: for example, sustainability reporting and analysis (the further evolution to include sustainability-reporting objectives is considered in section 1.3).

Figure A2: The COSO Internal Control – Integrated Framework Principles

CONTROL ENVIRONMENT	1. Demonstrates commitment to integrity and ethical values 2. Exercises oversight responsibility 3. Establishes structure, authority and responsibility 4. Demonstrates commitment to competence 5. Enforces accountability
RISK ASSESSMENT	6. Specifies suitable objectives 7. Identifies and analyzes risk 8. Assesses fraud risk 9. Identifies and analyzes significant change
CONTROL ACTIVITIES	10. Selects and develops control activities 11. Selects and develops general controls over technology 12. Deploys through policies and procedures
INFORMATION & COMMUNICATION	13. Uses relevant information 14. Communicates internally 15. Communicates externally
MONITORING ACTIVITIES	16. Conducts ongoing and/or separate evaluations 17. Evaluates and communicates deficiencies

Source: COSO (2013)

Other jurisdictions have developed similar definitions of the concept. As an example, in the UK the Financial Conduct Authority defines internal control in the glossary to its handbook as:

'the whole system of controls, financial or otherwise, established
by the management of a firm in order to:

a) 'carry on the business of the firm in an orderly and efficient manner;

b) 'ensure adherence to management policies;

c) 'safeguard the assets of the firm and other assets for which the firm is responsible; and

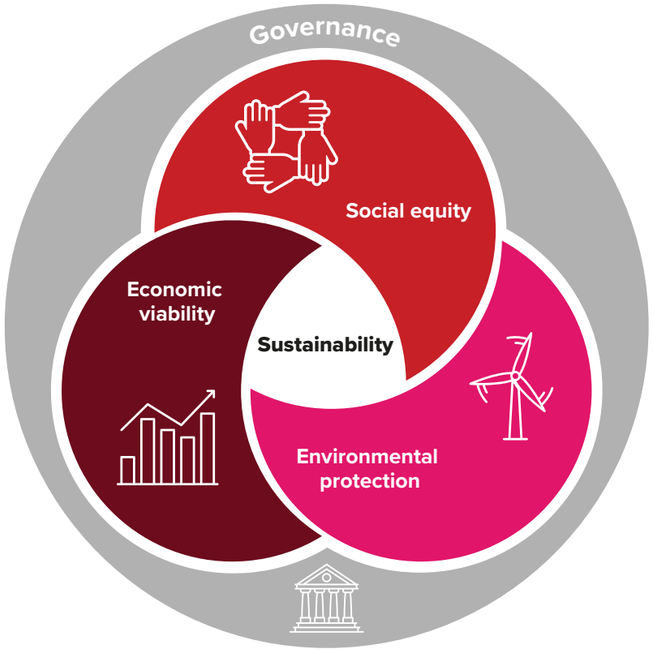
d) 'secure as far as possible the completeness and accuracy of the firm's records (including those necessary to ensure continuous compliance with the requirements or standards under the regulatory system relating to the adequacy of the firm's financial resources)'. (Financial Conduct Authority n.d.)

It is within this context that this report looks at internal control and how it is affected by several changes that entities face. The intent of these frameworks and guidance remains valid, but the next and more challenging step is in the practical implementation. The report does not seek to support any one model against another: rather, it is agnostic about the models themselves.

Sustainability

The sustainability transition is multifaceted, embracing economic viability, environmental protection and social equity dimensions (Figure A3). The range of issues that it influences includes not only climate and greenhouse gas emissions but also biodiversity and social aspects and how these interplay with each other in a manner that affects the entity's operating model.

Figure A3: Dimensions of sustainability



Sustainability may be considered to be one of the most significant risks entities face in the early 21st century. In relation to environmental protection, the dangers to the planet are significant if the temperature rise is not controlled. While the Paris Agreement in 2015 sought to limit the rise in the mean global temperature to 2°C above pre-industrial levels, and with a preference to limit the increase to 1.5°C, the progress by governments and entities towards this 2030 target has been slow. Many entities have faced a series of complex challenges in recent years, from the global pandemic of 2020 to 2022 and the inflationary pressures that then increased interest rates from 2022 and into 2024. In turn this has, for many, reduced the emphasis on a sustainable and just transition.

The reality is that entities need to transform their operating models to become more sustainable. In this sense, the transition to a sustainable operating model is an entity-wide transformation which is similar in shape and form to other transformations currently being undertaken.

Appendix 2. Reporting standards and guidance

Table A1 provides references for the sustainability reporting standards and guidelines referred to in this report.

Table A1: Sustainability-related reporting standards and guidance referred to in this report

STANDARD-SETTING BODY	SCOPE	WEBSITE
International Sustainability Standards Board (ISSB)	Developing – in the public interest – standards that will result in a high-quality, comprehensive global baseline of sustainability disclosures focusing on the needs of investors and the financial markets. Part of the IFRS [International Financial Reporting Standards] Foundation.	Website
Global Reporting Initiative (GRI)	Architect of the common global language for assessing and reporting on environmental, social and economic impacts. Providing standards, tools and training that enable entities of all sizes to harness the skills, capabilities and data they need to create sustainable, long-term value and unlock positive change in the world.	Website
EU Corporate Sustainability Reporting Directive (CSRD)	European Union (EU) regulation that mandates enhanced sustainability reporting for a wide range of companies, both within and outside the EU. The CSRD aims to improve transparency and comparability of sustainability information, enabling investors and other stakeholders to make more-informed decisions about companies' ESG impacts. The CSRD is implemented through the application of the European Sustainability Reporting Standards (ESRS).	Website
Sustainability Accounting Standards Board (SASB)	SASB Standards help companies disclose relevant sustainability information to their investors. Available for 77 industries, the SASB Standards identify the sustainability-related risks and opportunities most likely to affect an entity's cash flows, access to finance and cost of capital over the short, medium or long term, and the disclosure topics and metrics that are most likely to be useful to investors. As of August 2022, responsibility passed to the ISSB within the IFRS Foundation.	Website
Task Force on Climate-Related Financial Disclosures (TCFD) (now disbanded)	Climate-related financial disclosure recommendations designed to help companies provide better information to support market transparency and more informed capital allocation. In October 2023 the TCFD's work was absorbed by the IFRS Foundation.	Website
Carbon Disclosure Project (CDP)	A global non-profit entity that runs the world's only independent environmental disclosure system for companies, capital markets, cities, states and regions to manage their environmental impacts and make Earth-positive decisions.	Website
BCorp (part of BLab)	An international network of entities leading economic systems change to support a collective vision of an inclusive, equitable, and regenerative economy.	Website

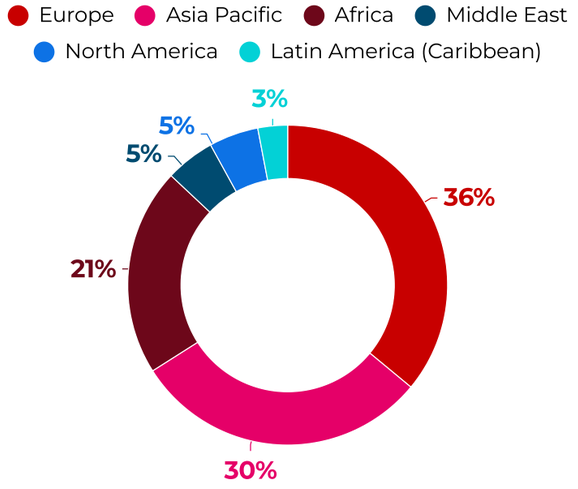
In addition to the standards referred to in the survey, there are local standards and guidelines promulgated by exchanges (for example, Bursa Malaysia through their Main Market Listing Requirements (MMLR) (Bursa Malaysia various updates).)

Appendix 3. Analysis of survey respondents

While developing this report, a survey was undertaken of ACCA and The IIA's members in March 2025, which received 917 responses. Figures A4 to A8 outline the background of the respondents to the survey.

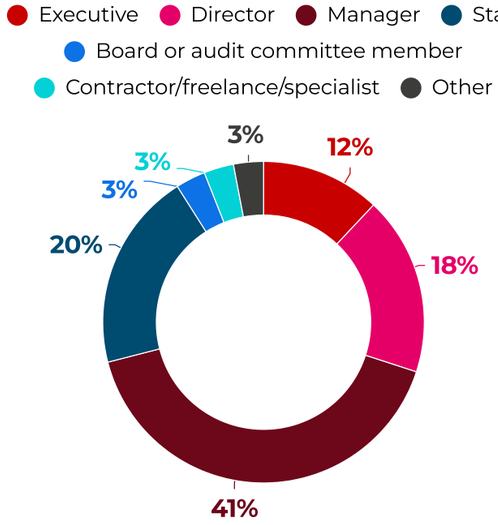
Regional location of respondents

Figure A4: In what region is your organisation based? (n=917)



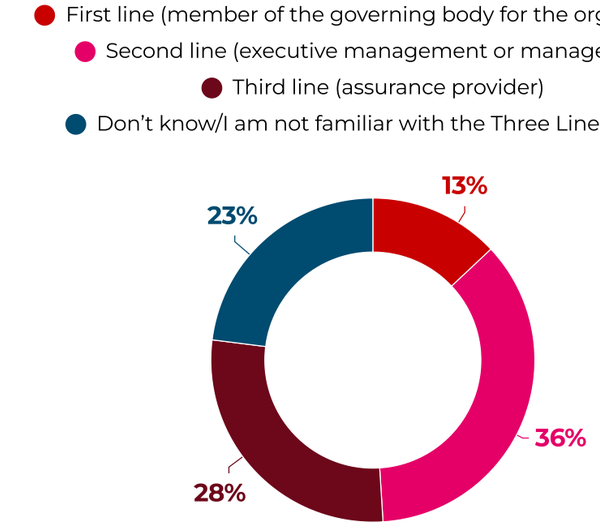
Position of respondents in their organisation

Figure A5: Please indicate your position within your organisation. (Choose the best match.) (n=917)



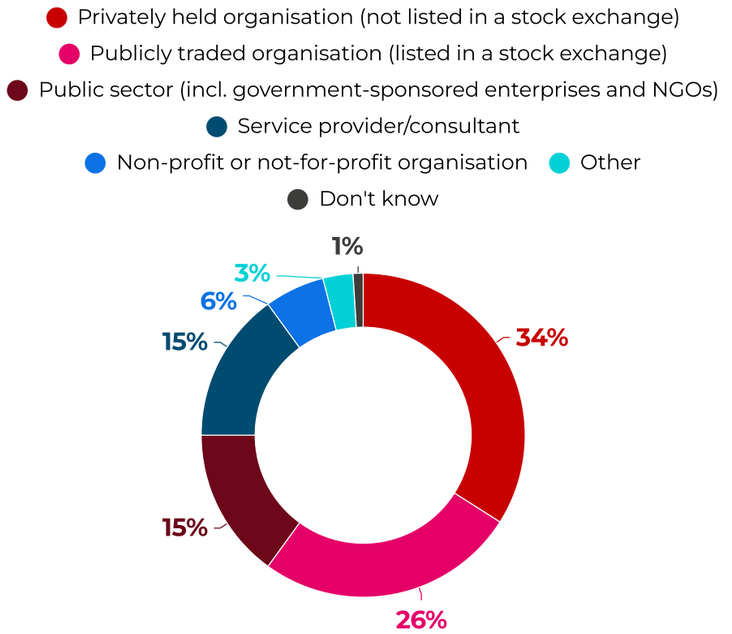
Role of respondents in relation to The IIA's Three Lines Model

Figure A6: How would you characterize your role within The IIA's Three Lines Model. (Choose the best match.) (n=917)



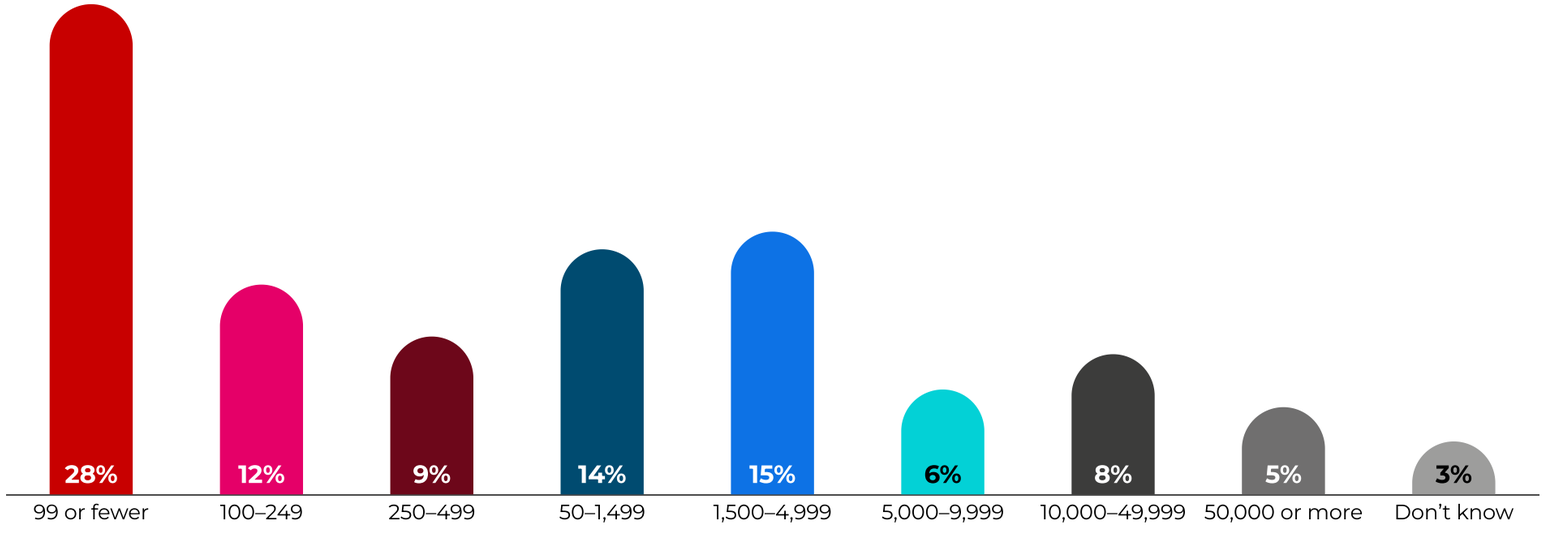
Types of entity for which the respondents work

Figure A7: What type of entity do you currently work for? (n=917)



Numbers of employees in the entities covered by the survey

Figure A8: How many full-time equivalent (FTE) employees are in your organisation as a whole? (n=917)



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References.

ACCA (2023a), *Accounting for Society's Values* <https://www.accaglobal.com/content/dam/ACCA_Global/professional-insights/society-values/PI-ACCOUNTING-SOCIETIES-VALUES%20v4.pdf>, accessed 1 July 2025.

ACCA (2023b), *Risk Culture: Building Resilience and Seizing Opportunities* <https://www.accaglobal.com/content/dam/ACCA_Global/professional-insights/riskculture/PI-RISK-CULTURE%20v8.pdf>, accessed 1 July 2025.

ACCA (2023c), *Chief Value Officer – the Important Evolution of the CFO* <https://www.accaglobal.com/content/dam/ACCA_Global/professional-insights/ChiefValueOfficer/PI-CHIEF-VALUE-OFFICER%20v6.pdf>, accessed 1 July 2025.

ACCA (2024), *Sustainability Reporting Hub: Creating and Using Decision-useful Information* <https://www.accaglobal.com/gb/en/professional-insights/global-profession/sustainability-reporting.html>, accessed 1 July 2025.

ACCA (2025), *Sustainability Assurance – ISSA 5000 the New Era* <https://www.accaglobal.com/content/dam/ACCA_Global/professional-insights/ISSA_5000/PI-MATERIALITY-ISSA-5000%20FINAL.pdf>, accessed 8 July 2025.

ACCA / IFAC / PwC (2023), *The Role of the CFO and Finance Function in the Climate Transition: Driving Value and Sustainability* <https://www.accaglobal.com/content/dam/ACCA_Global/professional-insights/climate-transformation/the-role-of-the-cfo-and-finance-function-in-the-climate-transition.pdf>, accessed 1 July 2025.

ACCA / IIA / IMA (2022), *Internal Control and the Transformation of Entities* <https://www.accaglobal.com/content/dam/ACCA_Global/professional-insights/TransformationInternalControl/PI-TRANSFORM-INTERNAL-CONTROL_v8.pdf>, accessed 1 July 2025.

Alvero, K. (2020), 'Data Ownership: Considerations for Risk Management', [online article], *ISACA Journal*, 2, 1 April <https://www.isaca.org/resources/isaca-journal/issues/2020/volume-2/data-ownership>, accessed 1 July 2025.

Bursa Malaysia (various updates), *'Main Market Listing Requirements'* Downloadable from <https://www.bursamalaysia.com/regulation/listing_requirements/main_market/listing_requirements>, accessed 14 August 2025.

COSO (2013), *Internal Control – Integrated Framework: Executive Summary* <https://www.coso.org/guidance-on-ic>, accessed 1 July 2025.

COSO (2023), *Achieving Effective Internal Control over Sustainability Reporting (ICSR): Building Trust and Confidence through the COSO Internal Control—Integrated Framework* <https://www.coso.org/_files/ugd/719ba0_0b33989b84454d1682399ab5c71e49cb.pdf>, accessed 1 July 2025.

ECIIA (European Confederations of Institutes of Internal Auditors), (2013) *Comments Template on Consultation Paper on the Proposal for Guidelines on the System of Governance* <https://www.eciia.eu/wp-content/uploads/2019/02/OCV-3.2-EIOPA-response.pdf>, accessed 18 August 2025.

European Union (2025), *Directive (EU) 2025/794 of the European Parliament and of the Council of 14 April 2025 amending Directives (EU) 2022/2464 and (EU) 2024/1760 as regards the dates from which Member States are to apply certain corporate sustainability reporting and due diligence requirements (Text with EEA relevance)*, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L_202500794>, accessed 1 July 2025.

Financial Conduct Authority (n.d.), *FCA Handbook* <https://www.handbook.fca.org.uk/handbook/glossary/G583.html#:~:text=More%20Resources:,5>, accessed 1 July 2025

Heier, J. R. Dugan, M. T. and Sayers, D. (2005), 'A Century of Debate for Internal Controls and their Assessment: A Study of Reactive Evolution', *Accounting History*, 10 (3) <https://journals.sagepub.com/doi/10.1177/10323732050100030>, accessed 1 July 2025.

IAASB (International Auditing and Assurance Standards Board) (2024), *Final Pronouncement: International Standard for Sustainability Assurance 5000* <https://www.iaasb.org/publications/login/75529>, accessed 1 July 2025.

IIA Spain (The Institute of Internal Auditors Spain) (2025), *Internal Audit of Artificial Intelligence Applied to Business Processes.* Downloadable from <https://www.theiia.org/en/content/articles/affiliate-content/internal-audit-of-artificial-intelligence-applied-to-business-processes/>, accessed 1 July 2025.

Lauren, D. (2017), *The History of Internal Control Systems* <https://bizfluent.com/facts-7203983-history-internal-control-systems.html>, accessed 1 July 2025.

MAPFRE (2025), *Consolidated Annual Accounts 2024* <https://www.mapfre.com/media/shareholders/2025/consolidated-annual-account-2024.pdf>, accessed 1 July 2025.

Stora Enso (2025), *Annual Report 2024* <https://www.storaenso.com/-/media/documents/download-center/documents/annual-reports/2024/storaenso_annual_report_2024.pdf>, accessed 1 July 2025.

The IIA (The Institute of Internal Auditors) (2020), T*he IIA's Three Lines Model – An Update of the Three Lines of Defense.* Downloadable from <https://www.theiia.org/en/content/position-papers/2020/the-iias-three-lines-model-an-update-of-the-three-lines-of-defense/>, accessed 1 July 2025.

The IIA (2021), *Internal Audit's Role in ESG Reporting: Independent Assurance is Critical to Effective Sustainability Reporting* <https://www.theiia.org/globalassets/site/content/articles/iia-white-paper---internal-audits-role-in-esg-reporting.pdf>, accessed 1 July 2025.

Tryg (2025), *Annual Report 2024: As the World Changes, we Make Everything Easier to be Tryg* <https://www.tryg.com/en/dokumenter/trygcom/annual-report-2024.pdf>, accessed 1 July 2025.

UN (United Nations) (2015), *Paris Agreement.* Downloadable from <https://unfccc.int/process-and-meetings/the-paris-agreement>, accessed 14 August 2025.

WBCSD (World Business Council for Sustainable Development) and The IIA (2025), *Embedding ESG and Sustainability Considerations into the Three Lines Model* <https://www.theiia.org/globalassets/site/content/tools/advocacy/2022/embedding-esg-and-sustainability-considerations-into-the-three-lines-model/embedding-esg-and-sustainability-considerations-into-the-3-lines-model.pdf>, accessed 1 July 2025.

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