



Leveraging the COSO *Internal Control—Integrated Framework* to Improve Confidence in Sustainability Performance Data

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Statement of Purpose

“Effective internal controls are good for business.” This is perhaps an interesting way to introduce the purpose of this thought paper, but, as its authors, our collective knowledge is very straightforward in this regard. Internal controls have value beyond compliance and external financial reporting. Effective internal controls can help organizations grow on a sustained basis, with confidence and integrity in all types of information.

The Committee of Sponsoring Organizations of the Treadway Commission (COSO) *Internal Control—Integrated Framework* (the Framework; originally issued in 1992, refreshed in 2013) was developed as guidance to help improve confidence in all types of data and information. From the Framework’s foreword, dated May 2013 (emphasis added):

- “The Framework will enable organizations to effectively and efficiently develop and maintain systems of internal control that can enhance the likelihood of achieving the entity’s objectives and adapt to changes in the business and operating environments.”
- “The Framework continues to emphasize the importance of management judgment in designing, implementing, and conducting internal control, and in assessing the effectiveness of a system of internal control.”
- “*The Framework has been enhanced by expanding the financial reporting category of objectives to include other important forms of reporting, such as non-financial and internal reporting.*”

We believe that this expansion is inclusive of sustainability performance measures.

Sustainability performance data—often referred to as “nonfinancial,” “balanced scorecard,” “performance dashboard,” “environmental, social, and governance (ESG),” and/or “integrated reporting” data—is rising in importance as organizations seek to improve their enterprise performance management (EPM) systems and processes. They are doing so in order to generate sustained value—ethically and responsibly—over the longer term given the increasing complexities and challenges of doing business in the world today. Companies are improving their performance management systems to have reliable data for decision making. Meanwhile, investors and ratings agencies around the world are increasingly seeking and relying on sustainability performance data. So there is a need among all stakeholder groups for effective controls.

In fact, asked what lies ahead on the road toward integrated reporting (of which sustainability performance information is part), John White, former director of the U.S. Security & Exchange Commission’s Division of Corporation Finance, responded simply: “Controls, controls, controls.”¹

¹ *The CPA Journal*, “Panel Discussion on Integrated Reporting: A Practical Perspective from Preparers and Practitioners,” July 2017.

Sustainability performance (or related nonfinancial data) has unique characteristics. It is less tangible and more qualitative than financial performance data—although sustainability data is often quantifiable, as reported by companies in sustainability and corporate social responsibility (CSR) reports. It is also more forward-looking, covering multiple time periods, and often more manually sourced. To improve confidence in sustainability performance data, a different “lens” on assurance and materiality may need to be taken relative to financial data, with professional judgment at the forefront. We believe the COSO principles on effectiveness—controls that are present, functioning, and integrated—could apply to all types of performance data, including sustainability, using professional judgment.

Yet “sustainability” has many—and often confusing or conflicting—definitions. Is it sustainability of the enterprise, thereby impacting reputation and “license to operate”? Is it about specific sustainability measures like climate control or deployment of human capital? Does it capture ESG measures? Is it all of the above? Despite the confusing and sometimes conflicting lexicon, which we don’t attempt to solve in this paper, there is one important commonality: Sustainability performance data, combined with financial data, is important for the organization to manage and to (voluntarily) communicate its value-creation capacity and capability to global stakeholders.

While various frameworks could be used to capture and communicate sustainability performance data, we chose to focus on the domains used by the Sustainability Accounting Standards Board (SASB): environment, social capital, human capital, business model and innovation, and leadership and governance.

This paper is not meant to be authoritative. It is intended to stimulate discussion and encourage debate on an increasingly important topic for organizations, investors, and the capital markets.

This paper simply shares the authors’ views on how the Framework could be used by organizations to improve confidence in sustainability performance data with the aforementioned qualities, adding value for internal and external decision making. We took a practical approach to this paper, leveraging many third-party resources, conducting interviews, and soliciting corporate case studies to support our thoughts and observations. Our goal is to help move the reporting ecosystem further along in the journey toward better utilizing, assuring, and communicating this type of data—with an emphasis on professional judgment and stakeholder learning. The bigger picture and context is to do our part to improve organizational capability, better satisfy investor needs, improve the effectiveness of capital markets, and, ultimately, serve the public interest.

Introduction

THE MIX OF INFORMATION

Organizations and their key stakeholders—including investors, supply chain partners, customers, and employees—increasingly recognize the importance of considering sustainability measures as an input to achieve business outcomes, create value for the organization, and serve the public interest. They have come to recognize that making effective business and investment decisions requires information beyond short-term financial measures of success. This broader set of information includes a mix of leading and lagging (and often intangible) indicators that impact financial value and performance over the short, medium, and long term. As a result, organizational sustainability is playing a larger, more strategic role today in the work of management accountants, finance professionals, and many others.

Although market demand for sustainability information and reporting is on the rise, internal stakeholders (e.g., management, staff, board members) as well as external stakeholders (e.g., investors, analysts, nongovernmental organizations, regulators) often do not have the same level of confidence in the reliability, utility, and quality of currently available sustainability information as they do with traditional financial data. The latter is bolstered by the widespread use of common accounting standards, effective internal controls, sound data governance, well-established regulatory oversight, rigorous external audits, and broad market acceptance.

A NASCENT PRACTICE

This paper focuses on one of the fundamental factors to help build greater confidence in material sustainability information through the effective design and maintenance of internal controls over sustainability reporting objectives. Although many organizations have begun to establish ad hoc controls around specific sustainability-related risks, activities, and performance indicators, relatively few have integrated key sustainability information into a comprehensive system of internal control—indeed, *this is a nascent but slowly growing practice*. By providing thought leadership in this area, this paper seeks to offer organizations a path toward establishing more effective systems of internal control over sustainability reporting.

COSO—A FRAMEWORK FOR ALL INFORMATION

One of the most widely used frameworks for establishing internal controls—and for evaluating and maintaining their effectiveness—is the Committee of Sponsoring Organizations (COSO) *Internal Control—Integrated Framework* (the Framework). The Framework specifically references nonfinancial reporting objectives, suggesting that sustainability reporting objectives can be integrated into an organization's existing internal control framework. COSO defines internal control as “a process, affected 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.”

While the Framework was always intended to apply to nonfinancial measures (for internal and external reporting), to some extent the U.S. Sarbanes-Oxley Act of 2002 (SOX), particularly Section 404, typecast the Framework as one aimed at providing reasonable assurance over *external financial reporting only*.² One complementary aim of this paper is to reaffirm that, from its inception in 1992, the Framework was always intended to facilitate the achievement of both financial and nonfinancial objectives, including those related to reporting for both internal and external stakeholders.

As organizations consider the application of internal control to material sustainability information, they do not need to start over with newly created controls. It may be more efficient to leverage many existing activities, controls, and established internal expertise as well as existing and proven methodologies, approaches, and concepts from internal control over financial reporting (ICFR), such as IT controls or monitoring techniques.

FRAMEWORKS TO GUIDE THIS DISCUSSION

A key early step in the journey toward applying the Framework to sustainability performance data involves identifying the measures that are most likely to be useful to internal and external decision makers. To that end, this paper leverages many public resources, including the work of the Sustainability Accounting Standards Board (SASB), the Institute of Management Accountants (IMA), the International Integrated Reporting Council (IIRC), the International Federation of Accountants (IFAC), the balanced scorecard and strategy map work of Robert S. Kaplan and David P. Norton, and the National Association of Corporate Directors (NACD), among others, appropriately cited herein.

The authors recognize, however, that an organization must determine for itself which sustainability factors are most important to its business model and unique operating circumstances. In this context, the SASB's voluntary standards may provide a useful starting point for organizations to "narrow the universe" of sustainability issues, thereby reducing the cost and effort required to design, implement, and maintain an integrated system of internal control. This is because the standards are designed—through extensive research, market input, and due process—to identify industry-specific sustainability factors that are reasonably likely to have financially material impacts on an organization.

² §404 Sarbanes-Oxley Act of 2002 (15 U.S.C. §7201 et seq.).

Background

The work of COSO recognizes that efficient financial markets require that investors have confidence in the quality and reliability of the information provided to those markets. COSO introduced the Framework in 1992 to help organizations enhance the likelihood of achieving a variety of objectives, including those related to the reporting of financial information. The Framework was subsequently refreshed in 2013, and while the five core components have stood the test of time (control environment, risk assessment, control activities, information and communication, and monitoring activities), principles and points of focus were added to modernize the Framework and make it more actionable.

WHY SUSTAINABILITY?

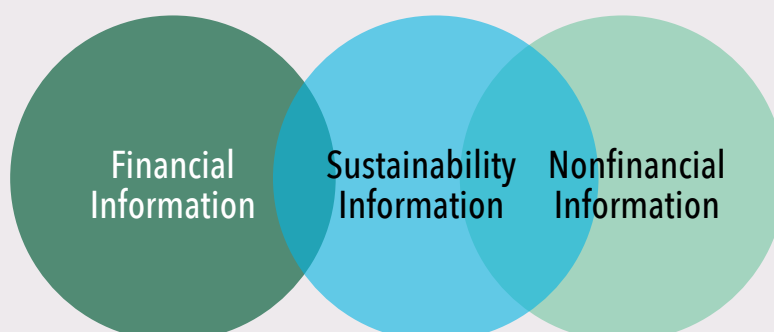
Business and operating environments have changed dramatically, and so has the information that organizations measure, manage, and report. In particular, many organizations and their stakeholders, including shareholders, have become increasingly engaged around ideas of “sustainability,” looking beyond disclosures focused primarily on past financial performance to more comprehensive indicators of value over the short, medium, and long terms. The SASB defines sustainability in the broader context of an organization’s capacity and capability for longer-term value creation across a variety of dimensions, including (See Appendix A for more information):³

- Environment
- Social capital
- Human capital
- Business model and innovation
- Leadership and governance

Organizations and shareholders alike have recognized that sustainability issues such as climate change, resource constraints, population growth, globalization, and technological innovation can—and do—significantly affect business outcomes and impacts. For example, the internationalization of manufacturing and supply chains has led to concerns about how U.S. companies are managing environmental, human rights, and ethical governance issues abroad. The rise of the internet and social media has increased the speed and scale at which a firm’s reputation and license to operate can be impaired due to mismanagement of sustainability factors. And, as part of their climate change mitigation efforts, governments around the world have employed a variety of mechanisms, including those that establish a price for carbon emissions (i.e., through a tax or allowance system), those that mandate energy efficiency and/or regulate greenhouse gas emissions, those that restrict or mandate specific energy sources, and those that incentivize and subsidize certain services and technologies.

³ Sustainability Accounting Standards Board, Conceptual Framework, February 2017.

WHAT IS SUSTAINABILITY INFORMATION?



Organizations and their stakeholders use key performance indicators (KPIs) to inform their decision making, and these KPIs have conventionally fallen into one of two categories: financial and nonfinancial. For example, assets, liabilities, stockholders' equity, revenues, expenses, net income, and earnings per share are important financial performance metrics, while market share and customer satisfaction are commonly used nonfinancial measures.

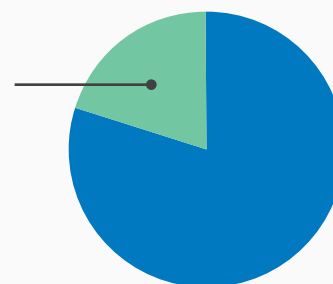
Although sustainability information is primarily nonfinancial in nature, it represents only a subset of the broader category of nonfinancial information and in some cases may overlap with financial information. For example, commonly used sustainability metrics include greenhouse gas emissions (in metric tons CO₂-e), energy consumption (in gigajoules), employee injury rates, and the percentage of data breaches involving customers' personally identifiable information, all of which are nonfinancial sustainability metrics. On the other hand, for example,

a processed foods company might measure its revenue (in dollars) from products labeled and/or marketed to promote health and nutrition attributes, which one could argue is both a sustainability metric and a financial metric.

It is also important to note that "material" sustainability information—that which would be important to management and investors—is only a small subset of the information typically included in a corporate sustainability report. This paper refers to "sustainability information" as industry-specific performance measures (either financial or nonfinancial) related to the five SASB sustainability domains. In this regard, the paper attempts to focus on the sustainability issues most likely to have material impacts on a company's financial condition or operating performance.

SUSTAINABILITY INFORMATION

Material
Sustainability
Information



HOW ARE ORGANIZATIONS AND STAKEHOLDERS RESPONDING?

Within organizations, a growing recognition of the link between sustainability issues and business outcomes has driven increasing attention to sustainability measures, as well as efforts to integrate them into existing management tools. For internal reporting, analysis, and strategy execution, the balanced scorecard is a commonly used framework and tool for measuring and managing business performance across four dimensions (also referred to as perspectives):⁴

- Financial
- Customer
- Internal business processes
- Learning and growth

Sustainability metrics may fall into any of these perspectives, with a large share being measures of internal business processes, so they fit naturally into balanced scorecards. The balanced scorecard can also be augmented by using strategy maps to better align nonfinancial measures, including sustainability metrics, with achievement of organizational strategy and related goals.⁵ (See Appendix B for more details on how the balanced scorecard applies to sustainability.)

Meanwhile, investors' attention has followed a similar trajectory. While interest in sustainability issues was once voiced only by so-called "ethical investors," today the decisions of mainstream investors about whether to buy, sell, or hold a security are increasingly influenced by sustainability performance. More than 1,600 organizations representing about \$60 trillion in global assets have become signatories to the UN's Principles for Responsible Investment (UNPRI).⁶ In the United States alone, sustainable, responsible, and impact investing assets have expanded to \$8.72 trillion, up 33% from just two years ago.⁷ Meanwhile, 73% of institutional investors say they take ESG issues into account in their investment analysis and decisions,⁸ and nearly all of them (92%) want companies to explicitly identify ESG factors that materially impact performance.⁹ Yet recent investor surveys indicate that a majority of them find sustainability information to be of lower quality and reliability than financial information, and they are often unable to compare sustainability information within a peer group or across an industry.¹⁰

⁴ Robert S. Kaplan and David P. Norton, "The Balanced Scorecard: Measures that Drive Performance," *Harvard Business Review*, January-February, 1992, pp. 71-79.

⁵ Robert S. Kaplan and David P. Norton, *The Strategy Focused Organization*, Harvard Business School Publishing, p. 200.

⁶ Principles for Responsible Investment, "About the PRI," www.unpri.org/about, accessed December 21, 2016.

⁷ The Forum for Sustainable and Responsible Investment, *2016 Report on Sustainable and Responsible Investing Trends*, November 14, 2016.

⁸ CFA Institute, "Environmental, Social and Governance (ESG) Survey," June 2015.

⁹ State Street, *The Investing Enlightenment: How Principle and Pragmatism Can Create Sustainable Value through ESG*, March 27, 2017.

¹⁰ For example, see PwC, *Investors, Corporations and ESG: Bridging the Gap*, October 2016.

Until recently, disclosure of sustainability information had not been examined in detail by the U.S. Securities & Exchange Commission (SEC). In the mid-1970s, the percentage of holdings of “ethical investors” was estimated to be two-thirds of 1% of all U.S. stock and bond holdings. Thus, the SEC determined these disclosures were of interest to only “an insignificant percentage” of investors.¹¹ Yet the SEC’s April 2016 Concept Release sought public feedback on ways it could modernize disclosures to make them more useful for today’s investors. Two-thirds of the nonform comment letters the SEC received addressed sustainability matters, and 80% of those called for improved disclosure of this type of information.¹²

THE NEED FOR QUALITY OVER QUANTITY

In 2015, 81% of S&P 500 companies issued self-proclaimed “sustainability reports” in 2015—more than ever before.¹³ Yet frequently internal stakeholders (e.g., management, staff, board members) and external stakeholders (e.g., investors, analysts, NGOs, regulators) alike still do not have the same level of confidence in the reliability and quality of available sustainability information as compared with historical financial information. For example, fewer than half of institutional investors have said they find company sustainability reports “very useful” (34%) or “essential” (10%).¹⁴ This combination of increasing interest and lacking confidence in sustainability information provides an opportunity for organizations to develop more effective internal control around key sustainability metrics.

Importantly, there is a subtle difference between “level of confidence” and “level of assurance.” Using professional judgment, an integrated internal control process (design, implementation, and reporting), internal audit, and/or agreed-upon procedures (AUP) engagements, many organizations strive for greater confidence in sustainability information while realizing that the very nature of certain qualitative or intangible data may not yield the same level of “reasonable” assurance for internal control over sustainability performance data relative to ICFR. Including those with “limited” assurance, just 12% of sustainability reports among S&P 500 companies included third-party verification and external assurance in 2014.¹⁵ The scope of assurance can vary considerably, covering only specific sections (e.g., GHG emissions) or extending to the content of the entire report. Research has indicated that only 30% of U.S. assurance engagements covered the full sustainability report in 2013.¹⁶ The American Institute of Certified Public Accountants (AICPA), one of the five founding COSO members, has stated, “Organizations are realizing that reporting sustainability information is not enough—decision makers using that information must have confidence that it is reliable.”¹⁷

¹¹ *Natural Resources Defense Council, Inc. v. SEC*, 432 F. Supp. 1190 (D.D.C. 1977).

¹² Sustainability Accounting Standards Board, “Business and Financial Disclosure Required by Regulation S-K – the SEC’s Concept Release and Its Implications,” September 14, 2016.

¹³ Governance & Accountability Institute, “Flash Report,” March 15, 2016.

¹⁴ TEY, “Is your nonfinancial performance revealing the true value of your business to investors?” 2017.

¹⁵ The Conference Board, *Sustainability Practices 2015*, 2015.

¹⁶ Global Reporting Initiative, *Trends in External Assurance of Sustainability Reports*, July 2014.

¹⁷ American Institute of Certified Public Accountants, “The CPA’s Role in Sustainability Assurance: Balancing Priorities: Profits, People and Planet,” 2015.

Chris Ailman, chief investment officer of the California State Teachers' Retirement System (CalSTRS), agrees. "In a time where alternative facts and fake news have heightened investor skepticism, we need material, durable, verified ESG data to use in our investment decisions," he says. CalSTRS is the largest teachers' retirement fund in the U.S., with approximately \$200 billion in assets under management.

Although many companies already include some sustainability information in their mainstream financial filings, much of this disclosure consists of boilerplate language that is typically qualitative in nature and lacks consistency and comparability. Research shows that more than half of sustainability-related disclosures in SEC filings use boilerplate language, which is nearly useless to investors, while less than 24% are disclosed using quantitative performance indicators.¹⁸

"Let's face it," says Ailman, "there's been a tectonic shift in investors' demand for industry-tailored environmental impact data. Smart investors know that material ESG information is central to risk mitigation and portfolio management. Smart companies are starting to discuss the need to drop the boilerplate MD&A language and present the material, verified ESG metrics to aid shareholders and management."

INTEGRATION BETWEEN SUSTAINABILITY AND FINANCE IS KEY

Today's corporations and their stakeholders are more attuned than ever to sustainability matters and their impact on strategy, performance, and value. But these issues have traditionally been managed separately from core finance and accounting functions, often by departments (e.g., marketing, corporate communications, public relations, investor relations) that lack formal connection to or coordination with the finance and accounting team. The sustainability information gathered, analyzed, and communicated typically resides in myriad systems outside the traditional enterprise resource planning (ERP) and financial reporting systems that are bolstered by effective internal controls. Therefore, many organizations do not typically apply internal controls in a systematic and integrated manner to achieve sustainability-related objectives, including reporting objectives.

Ernst & Young, one of the world's largest accounting firms, indicated that it finds less-than-robust controls around sustainability information in its work with companies. "Internal controls over nonfinancial reporting are relatively weak," says Brendan LeBlanc, a partner with EY's Climate Change and Sustainability Services practice. "Specifically, there have been precious little resources—people, processes, and systems—put against nonfinancial reporting, nor these basic types of internal controls which serve to enable consistent, credible nonfinancial reporting."

Better integration between sustainability and finance may be a key part of clearing the path forward. "Sustainability has grown up outside the influence of financial reporting and its robust governance," says Brigham McNaughton, director of Sustainable Business Solutions at PwC. "Controls around this area have plenty of room for improvement, and we are seeing the conversation between sustainability and financial reporting teams happening more than ever."

¹⁸ Sustainability Accounting Standards Board, *The State of Disclosure 2016*, December 1, 2016.

Improvement will likely be easier as corporate decision makers and investors alike continue to develop their understanding of the strategic linkage between sustainability and finances as well as the impact of this link on business performance, strategic goal achievement, and value creation. While 80% of CEOs believe that their company is approaching sustainability as a route to competitive advantage, just 14% of investors believe the companies in which they invest are doing so.¹⁹ This apparent disconnect between executives and investors suggests that companies, even those with strong performance, are struggling to effectively capture and communicate their sustainability performance to providers of financial capital.

Part of this disconnect may be in part due to the perceived lack of comparable and consistent performance measures around sustainability. Promulgating a manageable, cost-effective set of key sustainability-related performance indicators has made some progress in recent years; yet, more progress needs to be made to balance the needs of companies, investors, society, and other stakeholders. Already well versed and experienced in developing and implementing ICFR, the CFO team is well equipped—with its broader oversight and foresight on all strategic matters impacting the enterprise—to lead “integrated internal control governance,” with cost-effectiveness better achieved through the lens of materiality, comparability, and “reasonable confidence” (reflecting the unique nature of intangible, qualitative, and more manual performance data used to drive business decisions).

INTERNAL REPORTING OBJECTIVES

As with financial accounting, sustainability data has both confirmatory and predictive value, which means it can be used to evaluate past performance, plan for the future, and identify potential risks. Thus, material sustainability information is increasingly being integrated into internal performance management systems (e.g., balanced scorecards, strategy maps, business excellence frameworks).

When metrics related to key sustainability topics are trusted to produce reliable data, they can provide organizations with business intelligence to support internal decision making and management. Industry-specific sustainability metrics, for example, can enhance or be incorporated into such systems to promote goal congruence and coordination, communicate expectations, motivate business units, provide feedback to top-level decision makers, and inform benchmarking efforts. They can help managers identify those areas of the operation that are falling short of expectations and require greater focus for improvement. They also help managers spotlight areas of strength that may be turned into advantages.

None of this is possible, however, without reliable, credible, and useful information on which to base analysis and action. The data governance strategy of an organization is in part designed to achieve confidence in information and can be applied to all information, including material sustainability data. Effective integrated internal control is fundamental to this strategy.

By focusing its internal reporting efforts on material sustainability factors, an organization may also better support its operations objectives, leading to improved performance that can

¹⁹ Accenture, *CEO Study on Sustainability*, 2013; and *The Investor Study: Insights from PRI Signatories*, 2014.

then lead to growth and value creation over time. Academic research has shown that such a focus is correlated with outperformance in terms of sales, sales growth, return on assets, and return on equity in addition to improved risk-adjusted shareholder returns.²⁰

EXTERNAL REPORTING OBJECTIVES

In addition to being reported internally, material sustainability information is also finding its way into external disclosures and regulatory filings, some of which trigger certain compliance considerations.²¹ In the U.S., for example, Regulation S-K requires that companies disclose known trends, events, and uncertainties that are reasonably likely to have a material impact on their financial condition or operating performance.²² The SEC has clarified that this requirement may apply specifically to sustainability information, depending on a company's unique circumstances.²³ According to the SEC's guidance, when sustainability information is included in statutory filings, it is also subject to the same disclosure controls and procedures, as well as completeness and accuracy certification requirements, that apply to financial reporting.²⁴ These requirements create a higher standard for sustainability disclosures than may exist in other communication channels, such as with a self-declared sustainability report or CSR report.

Considerably more sustainability information is typically found in CSR reports than in others (e.g., annual reports). Yet these reports can be costly to produce and lack focus on the sustainability issues that are of most interest to investors, namely those most likely to have material impacts on a company's business, performance, value, and brand. Meanwhile, many companies also field numerous requests for sustainability information in the form of surveys and questionnaires from investors, data aggregators, indices, and ratings agencies, creating a significant incremental burden on the preparer with limited benefit to its shareholders.²⁵ This phenomenon, sometimes called "disclosure fatigue," affects a growing number of companies as the volume of benchmarking tools (e.g., indices) measuring sustainability performance has proliferated worldwide in an effort to meet burgeoning investor and market demand for benchmarks of such performance. As investors have become more dependent upon reliable, timely sustainability information, corporations have become more responsive to these data-gathering efforts, with response rates rising from about 15% in 2013 to 40% in 2016.²⁶

Effective internal control over financial and sustainability performance data is the foundation on which effective decision making rests, minimizing the organization's risk of a material misstatement (and omissions). Once again, integration of internal control design and

²⁰ Mozaffar Khan, George Serafeim, and Aaron Yoon, "Corporate Sustainability: First Evidence on Materiality," Harvard Business School, March 2015.

²¹ Sustainability Accounting Standards Board, *Implementation Guide for Companies*, January 2016.

²² 17 C.F.R. §229.303—Item 303, Management's discussion and analysis of financial condition and results of operations.

²³ U.S. Securities and Exchange Commission, "Commission Guidance Regarding Disclosure Related to Climate Change," February 2010.

²⁴ Securities Exchange Act of 1934, 17 CFR §240.13a-15 and 15d-15—Controls and procedures.

²⁵ Ann Klee, "Ratings Good for the Environment?" *Environmental Forum*, May/June 2015.

²⁶ Randall Smith, "Investors Sharpen Focus on Social and Environmental Risks to Stocks," *The New York Times*, December 14, 2016.

application across all business measures of success is critical, anchored by a holistic approach to an organization's governance, strategy, mission, and core values. In most cases, the CFO team will be well positioned organizationally to enable and implement integrated internal control governance in the design, operation, and maintenance of internal control over financial and sustainability performance data.

IMPROVED CAPITAL MARKETS EFFICIENCY

Actionable, transparent, reliable, and material information is part of the economic engine that drives our capital markets forward. It allows investors and their fiduciaries to efficiently allocate investment capital to growth opportunities and manage risks to economic growth and portfolio returns. Although financial statements remain vital to decision makers, investors are increasingly looking beyond them for a more comprehensive picture of how organizations create value. In 1975, only 17% of the assets in the S&P 500 were intangible; in 2015, the number was 84%.²⁷ When today's market valuations are based more and more on intangibles such as intellectual capital, customer relationships, brand equity, and other "soft" assets that create shareholder value in today's knowledge-driven economy, traditional financial statements tell a progressively smaller part of the story—by some estimates, as little as 5%.²⁸

In the absence of applicable accounting metrics to measure performance on material sustainability-related risks and opportunities, the market value of these intangibles is not only difficult to price efficiently, it is particularly sensitive to impairment by mismanagement. As a result, investors and creditors may overcompensate for this uncertainty, increasing a company's risk premiums and cost of capital.²⁹ With transparent access to a more complete picture of corporate performance—including sustainability measures—investors can make better-informed capital allocations, leading to more efficient, resilient, and competitive capital markets.

²⁷ Ocean Tomo, "Annual Study of Intangible Asset Market Value," March 5, 2015.

²⁸ Baruch Lev, *The End of Accounting and the Path Forward for Investors and Managers*, Wiley Finance, June 27, 2016.

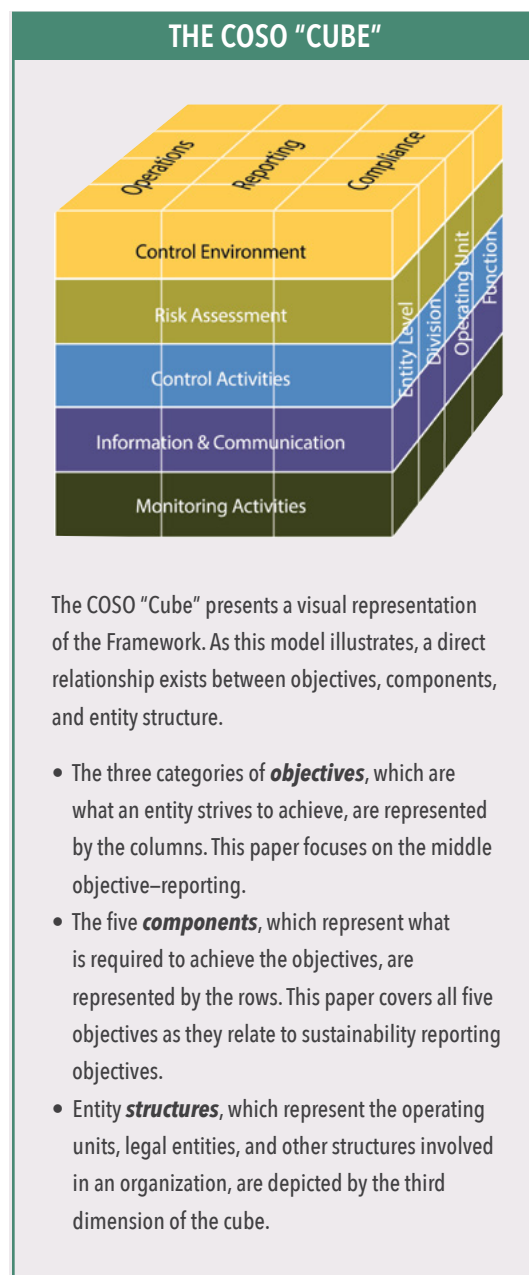
²⁹ D.S. Dhaliwal, O.Z. Li, A. Tsang, and Y.G. Yang, "Voluntary Nonfinancial Disclosure and the Cost of Equity Capital: The Initiation of Corporate Social Responsibility Reporting," *The Accounting Review*, Vol. 86, No. 1, 2011.

Applying the COSO *Internal Control—Integrated Framework* to Sustainability Reporting

An enterprise's management is responsible for providing full, accurate, and understandable information to capital markets and other stakeholders, including information related to material sustainability matters. Its ability to do so depends, in large part, on the design and effectiveness of the firm's internal control—the processes, policies, procedures, and other safeguards it has put in place around accounting, reporting, and communication of information. Applying the same systematic rigor to measuring, validating, managing, and reporting material sustainability information that is typically applied to financial reporting should lead to greater corporate and investor/stakeholder confidence, organizational value, and capital markets' effectiveness. The most widely used framework for establishing internal controls—and for evaluating and maintaining their effectiveness—is the 2013 COSO *Internal Control—Integrated Framework*.

The Framework is intended to help organizations achieve operations, reporting, and compliance objectives and to optimize the inevitable tension between the value creation and value protection activities.³⁰ The Framework specifically references nonfinancial reporting objectives, suggesting that sustainability reporting objectives could be integrated into an organization's existing internal control framework.³¹

SEC registrants already have a control framework in place to evaluate and support assertions regarding the effectiveness of ICFR, as this is a required management certification.³² Therefore, an organization may find it most effective to leverage the control framework currently used in financial reporting to also establish internal control over the achievement of both internal and external sustainability reporting objectives.



³⁰ Committee of Sponsoring Organizations of the Treadway Commission, *Governance and Operational Performance—Improving organizational performance and governance*, February 2014.

³¹ COSO, *Internal Control—Integrated Framework*, 2013.

³² Securities Exchange Act of 1934, 17 CFR §240.13a-15(c) and 15d-15(c).

THE SCOPE OF THE FRAMEWORK

Regulatory efforts in the U.S., such as the Sarbanes-Oxley Act of 2002 (SOX), have focused attention on the Framework as a compliance solution in the context of external financial reporting. Yet the Framework is equally useful for any reporting effort that endeavors to provide reliable information to decision makers, including both financial and nonfinancial reporting as well as both internal and external reporting, each of which is explicitly covered in the 2013 *Internal Control—Integrated Framework*.

As organizations increasingly move toward integrating sustainability information with their financial reporting, they are likely to find value in using a consistent control framework to encompass the achievement of multiple objectives, including those related to:

- Operations, compliance, and reporting
- Both financial and sustainability performance
- Both external and internal reporting and communications

What follows is a discussion of the Framework's interrelated *components, principles, and points of focus* as they apply to the internal and external reporting of material sustainability information. An organization may wish to consider these areas of alignment as it integrates sustainability reporting objectives into its performance management systems, reporting cycles, and existing control framework.

In addition, the discussion is complemented by a variety of current, real-world examples intended to illustrate lessons learned and the progress along the maturity curve toward achieving integrated internal control over—and greater confidence in—sustainability reporting and performance measures. These examples are drawn from extensive outreach to organizations that are leading efforts to design and maintain effective systems of internal control around their sustainability reporting and other objectives. The examples are not intended to be prescriptive, but rather to provide insight into how the components, principles, and points of focus in the Framework may be applied to specific circumstances involving sustainability measures.

The discussion follows the Framework's components in order:

1. Control Environment
2. Risk Assessment
3. Control Activities
4. Information and Communication
5. Monitoring Activities

CASE STUDIES

Real-world applications of internal control to sustainability information are featured throughout this section, highlighting organizations that are leading the way in the design, establishment, and maintenance of effective systems of integrated control. Their experiences and accomplishments, shared in the "A Closer Look" sidebars that accompany the COSO components and principles below, are intended to provide insight for others to follow in their own efforts.

A CLOSER LOOK: NOVO NORDISK

Insights from Europe, where integrated reporting is on the leading edge

As drug pricing has emerged in recent years as a headline risk for pharmaceutical companies—and a bipartisan rallying cry for politicians—the resulting regulatory and public scrutiny has underlined an often-overlooked fact of life for companies in the healthcare sector: Business success depends on a strong social license to operate. Novo Nordisk has long understood this fundamental component of its business model and, as a result, has integrated sustainability considerations into every aspect of its operations—including internal controls.

Novo Nordisk, a global healthcare and pharmaceutical company based in Bagsværd, Denmark, specializes in treatment of diabetes, hemophilia, growth disorders, and obesity. It trades on the New York Stock Exchange and Nasdaq Nordic, reporting sales of US\$15.9 billion in 2016. Although it is now recognized as a global sustainability leader—*Harvard Business Review* named the company's CEO, Lars Rebien Sørensen, the world's best-performing CEO two years in a row due in large part to his integrated approach to management and reporting—Novo Nordisk, which traces its roots back to the 1920s, didn't arrive there overnight.

Although the company had taken a values-based approach to management since its founding, it formalized its commitment to sustainability in 2004 when it incorporated the idea of a "triple bottom line" into its Articles of Association, which states that Novo Nordisk "strives to conduct its activities in a financially, environmentally, and socially responsible way."³³ Because of this, sustainability has since become embedded in the company culture, including the Novo Nordisk Way, a set of guiding principles that underpins decision making within the firm and its drive toward becoming a sustainable business.

In 2008, the company began to explore how it might leverage the COSO Framework to achieve its sustainable business objectives more effectively, including those related to reporting. Novo Nordisk established a cross-functional team to apply the Framework's components to its objectives and achieved cost-effectiveness by using a top-down, risk-based approach and materiality assessment to identify the most crucial areas to be addressed by the control framework. Project leader Cora Olsen, Global Lead TBL Reporting, recommends this approach to peers who are daunted by the potential scope—and cost—involved in establishing internal control over sustainability performance data. Start small, she suggests. "Pick your top five KPIs and let it grow and develop over time," she says.

During the process, Novo Nordisk relied heavily on its Sarbanes-Oxley specialists to align its internal controls over sustainability performance data with its ICFR as much as possible. Breaking down walls between sustainability and finance is key, Olsen says, as members of the sustainability team "are the content experts for just one bit of the puzzle." Led by established internal expertise in developing and maintaining controls, the team developed entity- and transaction-level controls, manual and automated controls, and preventive and detective controls—and documented everything. The system of internal control over sustainability performance data was launched in 2008 to support relevant (i.e., material) and reliable information, and the company has been refining its framework ever since as it learns and adapts.

	Environment	Social Capital	Human Capital	Business Model & Innovation	Leadership & Governance
Control Environment	X	X			
Risk Assessment	X	X			
Control Activities	X	X			
Information & Communication	X	X			
Monitoring Activities	X	X			

³³ Articles of Association of Novo Nordisk A/S, p. 3, www.novonordisk.com/content/dam/Denmark/HQ/aboutus/documents/corporate-governance/articles-of-association-novo-nordisk.pdf, accessed March 30, 2017.

A CLOSER LOOK: NOVO NORDISK

At the end of the day, Olsen says, Novo Nordisk applied the Framework to sustainability performance data for internal management as much as it did for external reporting to investors. Sustainability performance targets are integrated into the company's balanced scorecard, and those targets are linked to remuneration and cascaded to lines of business and individual scorecards. "It's how the company is managed," she says. For example, "The whole notion of segregation of duties is something that's been highly valuable to us," Olsen says. "[It] helps us weed out any incentives [for employees] to play with numbers. It's just building processes to make sure everything is right."

Investor needs also are an important consideration for Novo Nordisk. Since 2004, the company has produced an integrated annual report that includes both financial and sustainability information. In the report, the company's social and environmental statements are presented in the same format as its financial statements to "signal that the information is on equal footing," Olsen says, in terms of importance, relevance, and reliability.

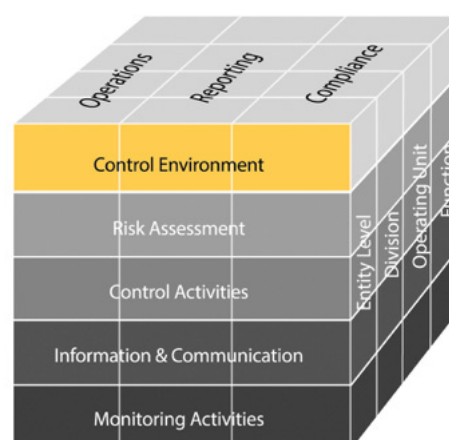
Every metric included in Novo Nordisk's social and environmental statements is integrated into the system of controls, with a corresponding internal control questionnaire (ICQ) and an individual owner. The ICQ outlines relevant process-level risks, prescribes the accounting policy, and provides a detailed description of processes and procedures, including controls—for example, who is responsible for performing and verifying the data, how it should be documented, or how frequently a control activity should be performed. The company's independent, third-party assurance provider bases its assurance statement on testing of controls.

"Just having the process in place has really elevated awareness of the importance of controls," Olsen says. As a result, when Novo Nordisk fulfills its periodic reporting obligations on tight deadlines, "Everyone [across the organization] now consolidates and reports in the exact same way."

Although Novo Nordisk's journey toward effective internal control over sustainability performance data has taken a long road, Olsen says it's well worth the trip. "Rome wasn't built in a day, and this can't be, either," she says. Despite it being a long-term investment, she says the value should be self-evident. "It's not very festive, but it's the whole foundation of the house. If you don't have this in order, you don't have much else."

COMPONENT: CONTROL ENVIRONMENT

The control environment is the "control consciousness" of the organization. At most corporations, its tone is set by the board of directors and top management. This tone guides objectives related to both financial and sustainability reporting. A strong internal control environment sets the stage for the establishment and maintenance of processes and discipline to govern controls over financial, nonfinancial, and sustainability performance data. Clarifying the organization's commitment to reliable reporting and communication is especially important when preparing sustainability information, as most information is currently collected by functions not historically connected to financial reporting or accustomed to its mature, rigorous control environment. While, increasingly, the CFO is considered the single control point for integrating financial and sustainability data for business performance and internal controls, the main point is that key sustainability metrics can be considered up front in the governance, strategy, and internal control design of the organization.



The Framework highlights the following principles related to the control environment that provide the discipline and structure that serve as a foundation for the implementation of the four other COSO Framework components.

Principle 1. The organization demonstrates a commitment to integrity and ethical values.

Points of Focus: Sets the Tone at the Top | Establishes Standards of Conduct | Evaluates Adherence to Standards of Conduct | Addresses Deviations in a Timely Manner

Organizations that publicly embrace sustainability but fail to back it up with meaningful initiatives (i.e., they “talk the talk,” but don’t “walk the walk”) are sometimes accused of deceptively cultivating an image as a responsible corporate citizen while failing to do so in practice (e.g., “greenwashing”). An organization’s leadership may benefit from signaling that it is serious about embedding sustainability into its core strategy, business model, and corporate culture.³⁴ It can do so more easily by focusing on the sustainability matters that are most crucial to its business. By reporting decision-useful information—such as key sustainability metrics—about the enterprise’s performance with respect to its commitment to integrity and ethical values, the organization enables improved decision making by both internal management and external stakeholders.

As the NACD points out, today’s organizations need to view sustainability “as both a matter of principle and an economic imperative to be embedded into strategy and culture—and the board has a key role to play in setting the context, tone, and expectations to make this happen.”³⁵

Principle 2. The board of directors demonstrates independence from management and exercises oversight of the development and performance of internal control.

Points of Focus: Establishes Oversight Responsibilities | Applies Relevant Expertise | Operates Independently | Provides Oversight for the System of Internal Control

The board of directors sets the tone at the top. If the board displays a commitment to sustainability performance measurement and reporting, it is more likely to be prioritized across the organization and even in its supply chains. The board (or a committee of the board) can also provide independent oversight over the establishment and maintenance of effective internal controls around sustainability information.

As with internal controls over financial reporting, this activity may be partially delegated to the audit committee, which is charged with oversight of financial reporting under SOX in the U.S. This is particularly true for companies that are moving toward integrating sustainability information with financial reporting, such as for the disclosure of material risk factors in SEC filings. Relevant activities of the board (or the audit committee) may include the review of controls’ effectiveness—particularly where significant deficiencies or material weaknesses related to sustainability information are identified—as well as oversight of the independent auditor, if one is engaged, to provide assurance over reported material sustainability information.

³⁴ National Association of Corporate Directors, *Oversight of Corporate Sustainability Activities Handbook*, October 8, 2014.

³⁵ National Association of Corporate Directors, *Board Oversight of ESG*, 2017.

SUSTAINABILITY GUIDANCE FOR BOARDS OF DIRECTORS

The National Association of Corporate Directors (NACD) offers excellent resources that support the principles within the control environment component of the COSO Framework.

In particular, *Oversight of Corporate Sustainability Activities* (Director's Handbook Series; 2014-2015) contains valuable tools, including a self-assessment to ensure boards are "sustainability-ready" and a model charter for a sustainability committee. These are useful tools for the evolving and broadening role of those charged with governance.

The adage "Actions speak louder than words" very much applies to a tangible and serious set of actions to ensure that sustainability—both performance and reporting—is taken seriously as a core business process inclusive of internal controls, as opposed to a "one-hit" (public relations) wonder.

Principle 3. Management establishes, with board oversight, structures, reporting lines, and appropriate authorities and responsibilities in the pursuit of objectives.

Points of Focus: Considers All Structures of the Entity | Establishes Reporting Lines | Defines, Assigns, and Limits Authorities and Responsibilities

Today's sustainability disclosures typically rely on information systems and processes outside the legacy ERP/financial reporting domain and its established controls environment. Information is often prepared in spreadsheets that aggregate data points from multiple facilities with operational and regional differences (e.g., period, format, language, unit of measure) and may have few formal controls.

To meet objectives related to the accuracy and reliability of reported sustainability information, an organization's management may need to establish a sustainability reporting process that matches the rigor and robustness of its approach to financial reporting. This may include clearly defining, documenting, and communicating how the organization is structured, what roles are involved, and where authority and responsibilities lie. In many cases, this may require breaking down virtual walls between departments that have previously been siloed—such as between the finance, strategy, and "sustainability" departments, which may include public relations, investor relations, marketing, and/or CSR groups in larger organizations. In others, it may involve the introduction of a segregation of duties that have traditionally been handled by a single role or department.

CFOs and their finance teams can play a central role in supporting the design and implementation of integrated controls in a cost-effective manner by focusing on financially material matters. In the case of sustainability performance data, with its often qualitative and intangible measures, applying professional judgment and providing a reasonable level of confidence is critical. Per a 2015 report by IFAC,³⁶ CFO teams are well equipped to assume this integration role in the following areas:

³⁶ International Federation of Accountants, *Creating Value with Integrated Thinking: The Role of Professional Accountants*, 2015.

- **Connectivity:** The CFO and the finance function can begin to ensure that all aspects involving people, processes, and systems are better connected.
- **External value focus:** An external focus is a critical starting point for identifying and articulating how value is created and destroyed. Finance teams can help to analyze data from a range of sources on topics such as business trends, product impact on society, and stakeholder views.
- **Integrated planning:** The insights gained from an external value focus form the basis of integrated planning, which involves identifying and managing significant matters affecting value creation over the short, medium, and long term. Integrated planning allows the board and senior and other management to be aware of the significant risks and opportunities the organization needs to manage proactively as part of their decision making.
- **Effective governance and oversight:** CFOs and their finance functions can begin to educate and train other parts of the organization about how to ensure their nonfinancial data achieves the same quality and credibility as financial data.
- **Integrated communications:** The CFO and finance organization play a significant role in creating a more integrated environment by reinforcing the relevance of the (financial and nonfinancial) capitals in the performance management and reporting cycle. Integrated thinking should lead to better disclosure rather than more disclosure by linking to the information used by internal decision makers.

FURTHER GUIDANCE FROM THE NACD

Role clarity is very evident in the NACD's *Oversight of Corporate Sustainability Activities* report. Its four recommendations for sustainability governance, reporting lines, and authority are:

1. Directors should understand the company's definition of sustainability in the context of the its strategy and specific circumstances (e.g., connecting sustainability reporting to value creation capability and capacity).
2. The board and management should align on the sustainability message and information the company chooses to report and communicate publicly (e.g., discussion of frameworks such as IIRC, Global Reporting Initiative (GRI), World Resources Institute/ World Business Council for Sustainable Development (WRI/WBCSD) Greenhouse Gas (GHG) Protocol, and SASB industry standards).
3. Boards should clarify roles for oversight responsibility for sustainability activities, including external reporting/ communication (e.g., board training, integrating sustainability oversight into overall board oversight roles and responsibilities).
4. Directors need to establish parameters for sustainability reporting to the board regarding the information required to support robust discussions with management.

Source: National Association of Corporate Directors, *Oversight of Corporate Sustainability Activities*, Director's Handbook Series, 2014-2015.

Principle 4. The organization demonstrates a commitment to attract, develop, and retain competent individuals in alignment with objectives.

Points of Focus: Establishes Policies and Practices | Evaluates Competence and Addresses Shortcomings | Attracts, Develops, and Retains Individuals | Plans and Prepares for Succession

Human capital can be a firm’s most important and profitable asset. Reliable, decision-useful sustainability information is likely to require interdisciplinary skills and judgment, from the subject-matter expertise of the engineer to the accounting skills of internal auditors and beyond. As a result, the organization would need to manage its human resources accordingly, displaying a commitment to competence in its hiring, training, and retention of these employees.

This may involve implementing policies and procedures for recruitment and selection, such as background checks, assessments of requisite skills and experience, or professional certification requirements. Implementing this principle may also involve cultivating a culture of learning and collaboration throughout the organization, developing a succession plan, and establishing training, career development, and incentive programs. Perhaps most importantly, organizational leadership can ensure that roles involved in sustainability reporting are as attractive as those involved in financial reporting so that talent is evenly distributed across the integrated reporting function.

As the NACD points out, “All leaders in the C-suite—not just the chief sustainability officer, chief risk officer, or chief diversity officer—should be aware of today’s higher ESG stakes.”³⁷ Today’s business professionals, especially those sitting within the CFO finance/accounting teams, are increasingly being asked to “connect the dots” between financial and sustainability information, serving as both stewards and creators of value. Connecting the dots means going beyond sourcing, managing, reporting, and controlling exclusively financial measures of success, and moving toward a broader set of business performance metrics defined by the balanced scorecard, the SASB, and other sources. Relationships between financial and sustainability outcomes are critically important. Value stewardship includes safeguarding of assets, compliance, audit, and sound internal controls. Value creation includes not just predictive analytics, but also prescriptive analytics and business intelligence. While this description sounds like a “super human,” today’s CFO is increasingly being described as the “chief value officer” or “chief futures officer” and thus a broader set of competencies is required to meet the challenges and expectations.

³⁷ National Association of Corporate Directors, *Board Oversight of ESG*, 2017.

Principle 5. The organization holds individuals accountable for their internal control responsibilities in the pursuit of objectives.

Points of Focus: Enforces Accountability through Structures, Authorities, and Responsibilities | Establishes Performance Measures, Incentives, and Rewards | Evaluates Performance Measures, Incentives, and Rewards for Ongoing Relevance | Considers Excessive Pressures | Evaluates Performance and Rewards or Disciplines Individuals

Even with effective employee recruitment, training, and retention programs, the organization may enforce accountability for individual performance with respect to sustainability reporting objectives. Under oversight of the board of directors, management would be expected to understand the relevant risks faced by the entity and to establish a system of controls that supports the achievement of its objectives. Likewise, employees in each business unit involved in the collection, validation, management, and reporting/communication of sustainability information could be held accountable for day-to-day activities and decisions via incentives, performance evaluations, disciplinary actions, and the like.

In designing and appraising such controls, management may wish to consider extraordinary or counterproductive pressures, such as unrealistic goals, excessive workloads, or limited resources and how to resolve them. It may also wish to consider alignment of incentives within outsourced service providers (OSPs). Reasonable performance targets may be factored into compensation for employees or into remuneration for OSPs.

As within other principles, it can be critically important that the board, audit committee, and senior management establish that sustainability reporting is not a one-off reporting effort; rather, it is likely to be most effective when it is integrated *early and often* in all aspects of the business, including governance, strategy, development of the business model, and the design and implementation of an effective system of internal control over financial and sustainability reporting. In effect, sustainability efforts, including reporting, are most valuable when they are embedded solidly in the genetic makeup and culture of the organization.

Even if responsibilities for performance management and internal control cross departmental lines, they can be agreed to and carefully documented. Consideration should be given to the overall performance management system, including metrics, rewards, penalties, and incentives. As with external financial reporting, sustainability reporting could be subject to excessive pressures to perform, and those charged with oversight need to ensure with reasonable confidence that balanced measures are aligned with appropriate cultural fit.

A CLOSER LOOK: SKY RACING WORLD

Key takeaways from a smaller firm with a strong commitment to controls

Australian-based Sky Racing World (SRW) provides Australian, New Zealand, and South African racing broadcasts and racing data to wagering outlets in the Americas and Caribbean. A significant source of the company's revenue is derived from pari-mutuel wagers placed by the customers of the wagering operators that SRW does business with. Detailed wagering transaction data from each of the operators, mostly in North America, is provided to SRW daily in the form of what it calls TRA files. The company designed and developed custom software to receive, import, perform foreign currency conversions, and extract usable output from these files, which allows SRW to know how much was wagered on its racing products by the customers of each operator, along with many other details. It is from this data that SRW's earnings are calculated—therefore, controls surrounding the accuracy, validity, timeliness, and completeness of this data are robust.

	Environment	Social Capital	Human Capital	Business Model & Innovation	Leadership & Governance
Control Environment					X
Risk Assessment					
Control Activities				X	
Information & Communication			X		
Monitoring Activities					

Leveraging Existing Controls

Some nonfinancial data important to SRW's business can also be gleaned from the TRA files. Because controls surrounding the TRA files are tight (many are built into the custom software), there is an inherent level of reasonable confidence in the nonfinancial data derived from them. In managing its human capital, one such piece of nonfinancial data SRW looks at is the quantity of TRA files its staff has processed. Because this metric can be secured via a robust system of internal controls designed around the financial data, SRW did not have to develop special controls to be able to use it. According to CFO Kristina Merrill, "Point No. 1 is that, whenever possible, existing controls processes should be leveraged to provide reasonable assurance over nonfinancial data."

Create a Culture of Accountability

Of course, reasonable controls should be present around any metric—financial or nonfinancial—that parties rely on to make decisions. This often means creating internal control processes to validate nonfinancial data just as is typically done for financial data. "Leadership must create a culture where everyone feels accountable for their parts of the internal control process, whether it is a control pertaining to a financial or a nonfinancial measure," Merrill says. "One of the key roles of Internal Audit must be to examine with diligence nonfinancial data in order to provide stakeholders assurance that controls are effective." Additionally, she points out, external audit must test controls over nonfinancial data not only to provide assurance over the effectiveness of the controls but also because doing so enables a greater understanding of the business and a greater likelihood of detecting fraud.

Telling the Right Story

SRW's controls-related efforts are not aimed solely at producing reliable nonfinancial information; the company has also focused on accurately measuring and reporting the right information. As with traditional financial data, nonfinancial metrics can be misleading when considered in isolation. For example, SRW recently discovered that the number of monthly TRA files it was processing had increased 15% over the course of a year while its employee head count had not increased at all. Initially, the company might have concluded that its employees were doing 15% more work each month than they had been the previous year. While this may have seemed great for the bottom line, it would be unsustainable over the medium to long term due to staff burnout.

A CLOSER LOOK: SKY RACING WORLD

But, it turns out, considering this metric in isolation was misleading. To shed more light on the matter, SRW considered an additional metric: missing TRA files. When files go missing due to technical glitches or human error, SRW's staff must spend time hunting them down by contacting operators scattered across multiple time zones around the globe. This creates significant delays in internal reporting since the day's data can't balance until all files are received and reconciled.

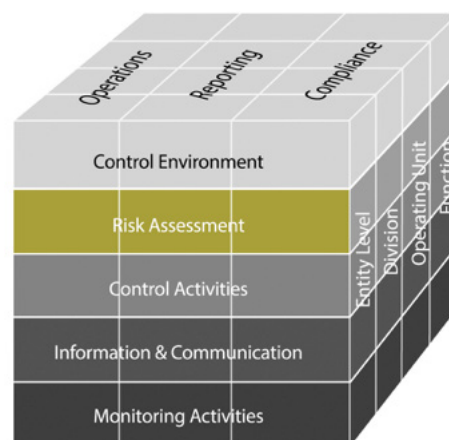
During the same time frame that the number of TRA files processed increased by 15%, SRW had been actively engaged with its operators to make process improvements aimed at ensuring consistent and timely file delivery. As a result, the average number of missing files per month decreased 69%. Because it takes exponentially more time to track down missing files than to process them, this additional information helped SRW see that its workforce actually wasn't overburdened with 15% more work after all. In fact, because of the process efficiency gains, the staff actually had increased capacity.

Merrill notes that this takeaway—producing not just accurate data, but the right data—applies equally to external reporting. “When sustainability reporting is left to the discretion of the reporting party, it’s all too easy to pick and choose. Some subjectivity risk could be mitigated if organizations are encouraged to disclose only the exact same set of sustainability metrics each period—no more, no less.”

COMPONENT: RISK ASSESSMENT

Entities face a variety of risks that could prevent the organization from achieving its objectives, including its sustainability reporting objectives. Such risks may arise from internal factors, such as employee engagement, and from external factors, such as changing regulation. They also may impact the entire entity or the level of a specific activity. Any of these risks may undermine the effectiveness of the organization's system of internal controls. Risk assessment is a core component of designing, implementing, and maintaining effective internal control over sustainability performance data. Principles-based guidance for performing a more strategic, dynamic, and iterative risk assessment is included in COSO's *Enterprise Risk Management—Integrated Framework* (the ERM Framework), which can help entities identify and assess risks as a foundation for managing them against the entity's own risk tolerances.³⁸

Because sustainability reporting has emerged relatively recently as a core group of business processes and is arguably evolving today more quickly than financial reporting, the risk assessment may benefit from placing particular emphasis on the industry-specific sustainability risks captured, for example, in the SASB's five performance dimensions: environment, social capital, human capital, business model and innovation, and leadership and governance. Many organizations may wish to reconsider the focus of their sustainability reporting objectives, closely monitor the effectiveness of related controls in the face of changing investor expectations and



³⁸ COSO, *Enterprise Risk Management—Integrated Framework*, 2004. A refresh of the COSO ERM Framework is expected to be published in 2017 (exposure period ended September 30, 2016).

management needs, and more systematically consider material risks to the achievement of those objectives. Should management choose not to assess these risks or fail to identify them, it is essentially accepting the risk without response and without considering whether or not it falls within the organization's risk tolerance.

Organizations should recognize that in integrating sustainability reporting into all aspects of the business, including governance and strategy, it may be best to avoid a one-size-fits-all approach to designing the system of internal control given that sustainability measures are generally more intangible and qualitative relative to financial reporting measures driven by U.S. GAAP, International Financial Reporting Standards (IFRS), or other national accounting standards. For example, the concepts of reasonable assurance, materiality, risk appetite, and risk tolerance have commonly understood meanings, but may have tailored application to financial and sustainability measures of success and related internal controls.

Principle 6. The organization specifies objectives with sufficient clarity to enable the identification and assessment of risks relating to objectives.

Points of Focus: Reflects Management's Choices (internal reporting) | Complies with Externally Established Standards and Frameworks (external reporting) | Considers the Required Level of Precision | Reflects Entity Activities

A precondition of risk assessment is that the organization has defined its objectives with sufficient clarity so that specific risks can be identified and analyzed. Developing focused sustainability reporting objectives is likely to require thoughtful consideration of statutory disclosure requirements, industry best practices, and the needs of internal and external users. An organization may wish to use a similar approach to the one it uses for financial reporting, such as establishing information processing objectives—for example, completeness, accuracy, validity, and restricted access (CAVR)—related to key sustainability-related assertions.

For example, to better align sustainability initiatives with core business strategy, the entity may wish to incorporate sustainability factors into its materiality assessments to identify any known trends or uncertainties (e.g., risks to a potable water supply for a beverage manufacturer) that are reasonably likely to materially impact its financial condition or results of operations. In turn, it is also likely to be useful for the organization to consider the different types of metrics and level of precision necessary for effective internal and external reporting on material sustainability factors (such as water availability). For instance, management is increasingly incorporating sustainability data into performance management systems, which may necessitate the identification of regularly reported leading indicators. Meanwhile, in annual filings, investors increasingly expect quantitative sustainability data that is comparable across industry peers, which may compel a careful survey of market standards (such as the voluntary SASB standards) and the establishment of suitable criteria for assurance standards, as well as a review of industry norms and best practices associated with sustainability reporting.

In determining the level of precision required for meeting its sustainability reporting objectives, the organization may wish to consider both the needs of users (internal and external) and regulatory requirements (for external reporting), such as SEC guidance asking that companies identify and discuss key performance indicators (KPIs), including sustainability performance indicators, that management uses to run the business and are material to investors.³⁹ In light of these demands, companies are increasingly refining the level of precision involved in sustainability-related disclosures. Consider an example from the alcoholic beverages industry, where water management is an increasingly material concern with strategic implications. Despite this fact, some companies continue to address the issue using vague, nonspecific language, such as:

*Climate change and water availability may negatively affect our business and financial results....Clean water is a limited resource in many parts of the world and climate change may increase water scarcity and cause a deterioration of water quality in areas where we maintain brewing operations. The competition for water among domestic, agricultural and manufacturing users is increasing in some of our brewing communities....The above risk, if realized, could result in a material adverse effect on our business and financial results.*⁴⁰

This type of generic language fails to provide useful information to investors. Yet when a company's sustainability reporting objectives require a higher level of precision, it can establish effective controls around the information to facilitate the simultaneous achievement of objectives related to reporting (e.g., decision-useful information), compliance (e.g., with SEC guidance), and operations (e.g., improved water management). For example, consider the following excerpt from another alcoholic beverages firm's disclosure on the topic:

*Overall this year, Diageo has delivered improved performance across all water and other environmental target areas versus the prior year, and progressed towards meeting 2015 goals. We reduced absolute water use by 9% or 2,268,000 cubic metres while water efficiency improved by 2.4% compared to the prior year. In water-stressed locations, we have reduced water wasted by 12%, an important contribution towards our target of a 50% reduction versus the company's 2007 baseline.*⁴¹

By specifying its sustainability reporting objectives with a sufficient level of clarity, such as CAVR, the company can enable the identification and assessment of risks related to all sustainability-related objectives.

³⁹ SEC FR-72, Commission Guidance Regarding Management's Discussion and Analysis of Financial Condition and Results of Operations, December 2003.

⁴⁰ Molson Coors, Form 10-K, filed February 12, 2015.

⁴¹ Diageo, Form 20-F, filed August 12, 2014.

A CLOSER LOOK: CalSTRS

Leveraging existing processes and standards to support sustainability reporting objectives

The California State Teachers' Retirement System (CalSTRS) provides retirement benefits for the state's educators. With more than \$200 billion in assets under management, it is the largest such fund in the United States and the 11th largest public pension fund in the world. In its annual report for the year ending June 30, 2017, CalSTRS is planning to voluntarily present information on potential material risks identified in the SASB standard for the asset management and custody activities industry.

In making its sustainability-related disclosures, CalSTRS has established objectives to report complete, accurate, and timely information. To help ensure the achievement of these objectives, it is developing content by leveraging data prepared for and vetted through other existing internal processes. For example, information on enterprise risks, human resources, and compensation policies and outcomes is also used to prepare various documents presented in public board meetings, internal risk management meetings, and operational performance reviews. Because the internal review and approval process for board documents, enterprise risk reports, and operational KPIs is already well developed, substantive information will have been vetted at a board or senior leadership meeting. In another example, the organization's disclosure around legal and compliance risk will be based on information it prepares for a financial statement review by its external auditors.

"By considering the required level of precision for reporting material sustainability information to external users and complying with an externally established standard for disclosure, CalSTRS is better equipped to more efficiently and effectively meet its sustainability reporting objectives and deliver decision-useful information to users interested in the long-term financial viability of the fund," says CFO Robin Madsen.

	Environment	Social Capital	Human Capital	Business Model & Innovation	Leadership & Governance
Control Environment					
Risk Assessment	X	X	X	X	X
Control Activities					
Information & Communication					
Monitoring Activities					

Principle 7. The organization identifies risks to the achievement of its objectives across the entity and analyzes risks as a basis for determining how the risks should be managed.

Points of Focus: Includes Entity, Subsidiary, Division, Operating Unit, and Functional Levels | Analyzes Internal and External Factors | Involves Appropriate Levels of Management | Estimates Significance of Risks Identified | Determines How to Respond to Risks

The identification and analysis of risks is an ongoing, iterative process intended to help the entity achieve its objectives, including those related to sustainability reporting. Sustainability risks and associated reporting risks (such as the risk of misstatement or reputational risks from underperformance) may arise from internal or external sources and may affect the organization at any level from specific business activities to operating units to the entity as a whole. When informally assessed or improperly managed, such risks may impair the effectiveness of the internal control system and result in sustainability information that is insufficiently reliable for decision making and, at worst, materially inaccurate or misleading.

For example, an entity may face risks related to the quality of its data when it adopts new IT systems or lacks proper controls around legacy IT systems. Likewise, the relevance of data may be compromised by emerging or evolving regulations. For organizations that report material sustainability information in public filings or annual reports, risks may be posed by a process for data collection, validation, management, and reporting that does not sync with the financial reporting cycle.

In its assessments, the organization may wish to consider the likely timing of the risk (near, medium, or long term) to estimate the probability and magnitude of the risk and to evaluate the nature of its potential impacts (acute or chronic). Such characteristics can be weighed within the context of the organization's own risk appetite and tolerance to determine the most appropriate response for risk management, which may include accepting, avoiding, reducing, or sharing the risk. The organization may also wish to consider the risks faced by OSPs.

Principle 8. The organization considers the potential for fraud in assessing risks to the achievement of objectives.

Points of Focus: Considers Various Types of Fraud | Assesses Incentive and Pressures Assesses Opportunities | Assesses Attitudes and Rationalizations

Even with a culture of ethical integrity firmly in place, the organization can ensure against the risk of fraud in sustainability reporting with strong controls around related people, processes, and technology. Naturally, well-developed antifraud controls likely already exist in the organization's financial reporting system; however, sustainability information may be gathered outside of this established system and control environment, introducing uncertainty around its lineage, validity, and quality.

At many organizations, particularly those just "dipping their toes" into sustainability, responsibility for sustainability information reporting and communication often sits outside the accounting and finance function and typically is not integrated into the established ICFR framework. As a result, the teams responsible for sustainability information reporting and communication may be subject to little, if any, segregation of duties, increasing the risk of fraudulent collection, validation, management, or reporting of sustainability information, particularly in cases where those responsible for these activities may also have incentives tied to sustainability performance factors. Given the unequal treatment of controls around financial and sustainability information, internal and external users are likely to lack confidence in the sustainability information—information that is nevertheless essential for modern decision making and multicapital resource allocation (i.e., allocations of financial, natural, human, intellectual, manufactured, and social capitals).

An organization will likely benefit from developing a strong culture of open communication (including, where appropriate, a so-called whistleblower channel) and from cultivating a spirit of cooperation between those responsible for sustainability performance information, the compliance team, and the internal audit staff, in particular. The organization may wish to

consider performing regular assessments of fraud risk related to sustainability reporting and regular reviews of related controls intended to prevent fraudulent reporting, data manipulation, management bias or override, corruption, and other relevant issues.

As COSO states, “Fraudulent non-financial reporting is an intentional act designed to deceive users of non-financial reporting, including sustainability reporting, health and safety, or employment activity, and that may result in reporting with less than the intended level of precision.”⁴² By its very nature, sustainability reporting is often more intangible and qualitative than financial reporting. It can be integrated into a balanced performance dashboard with objectives tied to the strategy, risks identified and assessed, and internal controls in place to mitigate the risks to an acceptable level of performance. The board, compliance team, and auditors (internal and external) may each have a role to play in this “integrated oversight.”

Principle 9. The organization identifies and assesses changes that could significantly impact the system of internal control.

Points of Focus: Assesses Changes in the External Environment | Assesses Changes in the Business Model | Assesses Changes in Leadership

A variety of changes may compromise the effectiveness of an organization’s controls, including those due to internal and external factors. Internal factors might include changes to its business model, operations, or geographic footprint. External factors might include evolving technology, macroeconomic considerations, the political, legal, and regulatory environments, competition, demographics, society, and culture. Organizations should consider how these changes might affect its system of internal control.

For example, changing local, regional, federal, or global regulations with respect to certain sustainability issues (e.g., air quality or water management) may render the organization’s controls over this data obsolete, requiring new metrics and underlying criteria or tweaks to existing ones. In this case, the controls help the entity achieve both its reporting objectives and compliance objectives. Additionally, internal changes—such as those related to rapid growth (or contraction), mergers and acquisitions (or spin-offs), geographical exposures, leadership transitions, technology roll outs, and more—also can significantly alter the effectiveness of controls over sustainability reporting.

For example, an organization may decide to take on more risk in prototyping, experimenting, and investing in new technologies. As it innovates, the organization needs to ensure that it captures this evolution in the information it reports to internal and external decision makers and, by extension, in the design of its internal controls around this information. For instance, in the containers and packaging industry, new regulations and evolving consumer preference for sustainable products are changing the competitive landscape, prompting companies to research and develop more sustainable alternatives. Decision makers are likely to benefit from

⁴² COSO, *Internal Control—Integrated Framework*, 2013, p. 79.

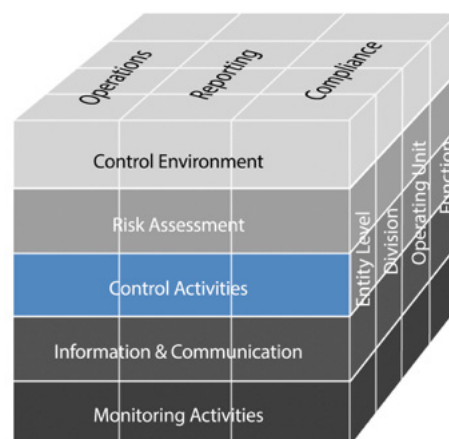
benchmarking organizational performance vs. peers in terms of the percentage of raw materials it derives from recycled content or renewable resources. To support this reporting, the organization may wish to extend any existing controls around the use of raw materials to include definitions of these terms and establish a standard protocol for calculating the weight of the materials, including segregation of duties, periodic calibration testing of equipment, and standardized documentation.

COMPONENT: CONTROL ACTIVITIES

Control activities are the actions established through policies and procedures to help mitigate risks to the achievement of objectives. These activities are performed at all levels of the organization, at various stages within business processes, and within technology systems. They may be preventive or detective, manual or automated, apply to either transactions or business processes, and generally involve segregation of duties wherever practical. Examples include authorizations and approvals, verifications, reconciliations, and business performance reviews.

With respect to sustainability reporting objectives, many organizations either lack adequate control activities or find that control activities around sustainability reporting objectives are not executed consistently. Typically, senior management does not regularly perform systematic assessments of risks related to sustainability reporting objectives, nor do they issue directives that require associated activities. Additionally, many such control activities, if they do exist, are manual in nature, relying on people rather than automated systems and introducing variability in data quality and a lack of confidence in data reliability.

One way to mitigate this risk is to ensure that there is an integrated approach to performance reviews at all levels of the organization, including the board, compliance team, internal auditors, senior leadership, and various subunits of the organization. Similar to how financial and sustainability-related leading and lagging indicators can be integrated into *designing* the business strategy, so, too, can they be integrated in *executing* the strategy. Sustainability performance can have financial impact in the short, medium or long term. Integrated and frequent performance reviews, including the “art and science” of asking the right questions with professional skepticism, can help provide greater confidence that control activities are in place to mitigate risks to an acceptable level in achieving strategic sustainability reporting objectives across the five SASB dimensions and four balanced scorecard perspectives.



Principle 10. The organization selects and develops control activities that contribute to the mitigation of risks to the achievement of objectives to acceptable levels.

Points of Focus: Integrates with Risk Assessment | Considers Entity-Specific Factors | Determines Relevant Business Processes | Evaluates a Mix of Control Activity Types | Considers at What Level Activities Are Applied | Addresses Segregation of Duties

Having identified key risks to the achievement of its sustainability reporting objectives, the organization may then select and develop control activities to mitigate these risks effectively. As an evolving practice, sustainability reporting processes often lack basic control activities, such as authorizations, record keeping, adequate documentation, and segregation of duties, let alone higher-level or more advanced activities. Likewise, technology systems used in the sustainability reporting process may lack automated checks, data analytics and validation, and secure access. In selecting and developing its control activities around sustainability reporting, management may need to consider entity-specific factors, determine the relevant operations and reporting processes, and evaluate and implement a mix of different control activity types. A balance of different activities—preventive and detective, automated and manual—often is more effective in supporting the achievement of the organization’s sustainability reporting objectives.

Finally, where automated controls are not possible, the organization may want to ensure that employees are aware of their role in the control environment, understand the importance of reliable sustainability information, are well trained to perform their control activities accurately and consistently, and are free from pressures that might compromise their performance. Manual control activities around sustainability reporting may need to be segregated, as appropriate.

Principle 11. The organization selects and develops general control activities over technology to support the achievement of objectives.

Points of Focus: Determines Dependency between the Use of Technology in Business Processes and Technology General Controls | Establishes Relevant Technology Infrastructure Control Activities | Establishes Relevant Security Management Process Control Activities | Establishes Relevant Technology Acquisition, Development, and Maintenance Process Control Activities

At many organizations, sustainability information is collected, validated, managed, analyzed, and reported/communicated using technology systems that operate outside the control environment for financial reporting. Although the organization may have general controls over its technology infrastructure, these may be insufficient to ensure the level of accuracy and completeness required to meet sustainability reporting objectives. The organization may therefore wish to select and develop additional control activities related to these systems or, alternately, integrate key sustainability information into its enterprise resource management platform or other legacy systems.

For example, many organizations use ad hoc spreadsheets to collect sustainability data. This may require the implementation of a variety of control activities, including input/error control

A CLOSER LOOK: PIRELLI

Leveraging existing processes and standards to support sustainability reporting objectives

Pirelli & C. SpA is a \$6.6 billion multinational company based in Milan, Italy. Focused primarily on manufacturing tires, the company has a sales presence in more than 160 countries and 19 manufacturing sites in 13 countries. In recent years, Pirelli has increased its focus on responsible governance, creating a top-down sustainability program that is deeply embedded in the culture of the firm—illustrated by the fact that, when it went private in 2015, approximately 25% of the company's shares were held by the UN's Principles for Responsible Investment (UNPRI) signatories, according to Maureen Kline, vice president of Public Affairs and Sustainability for North America.

The company's comprehensive annual report integrates financial and sustainability information and endeavors to clearly link the two. "We've been working for a long time to figure out how to talk about sustainability in quantifiable ways with mainstream investors," Kline says. "We use the UN Global Compact Value Driver Model to talk about the value created from our sustainability actions."

Pirelli collects and monitors company data, has a comprehensive internal audit program in which all sites are audited at least every three years, and engages a third-party auditor for assurance of ESG information contained in the integrated annual report. Suppliers are also subject to third-party sustainability audits. Pirelli uses the COSO Framework for its enterprise risk management program, including for sustainability-related risks. In fact, enterprise risk management (ERM) and sustainability functions reside within the same department in Pirelli. The company uses data to inform goals, targets, and strategic decision making, including at the board level, where a board committee includes sustainability oversight under its purview.

To support these efforts, Pirelli developed a proprietary IT system called CSR-DM (Corporate Social Responsibility Data Management), which is used to consolidate the environmental and social performance data of all Pirelli business units worldwide. The CSR-DM can import data automatically from other IT systems, such as Pirelli's financial management system, its human resources platform, and its internally developed health, safety, and environment platform (HSE-DM), allowing the company to establish automated preventive and detective controls, such as cross-system reconciliations. CSR-DM validates data with immediately color-coded alerts to indicate flawed data entry and visual cues (e.g., past data) to help identify outliers. Additionally, three different employees are charged with entering, confirming, and validating the data, where final validation is under the CEO's responsibility. "It can be cumbersome, but it really drives us toward accuracy," Kline says. Finally, the reliability of the data is enhanced by periodic internal sustainability audits and external verification of the platform by a third-party assurance provider.

By leveraging technology and existing business processes to establish process- and transaction-level control activities around key sustainability information, Pirelli not only achieves its integrated reporting objectives more effectively, but provides business intelligence that enables the company to better pursue related performance targets, such as those projected to reduce water withdrawal, energy consumption, waste recovery, CO₂ emissions, as well as those projected to increase the average training days per capita, among others. "We certainly use the [sustainability] information both for setting goals and targets and to monitor the relevant performance," Kline says. "All of our environmental KPIs feed into our strategy, as well as a number of social KPIs."

	Environment	Social Capital	Human Capital	Business Model & Innovation	Leadership & Governance
Control Environment					
Risk Assessment	X	X	X	X	X
Control Activities	X	X	X	X	X
Information & Communication	X	X	X	X	X
Monitoring Activities	X	X	X	X	X

(e.g., reconciliation), version control (e.g., established file structures and naming conventions), and access control (e.g., user permissions). More broadly, enterprise-wide security controls could be put in place to protect both business intelligence and customer information, thereby supporting reporting, compliance, and operations objectives all at once. Finally, management may also consider control activities related to the acquisition of packaged software and/or cloud-based solutions and capabilities, the development of custom software, and the maintenance of both.

Where possible, the organization should consider leveraging existing controls, systems, and expertise to establish effective internal control over sustainability performance data in the most efficient and cost-effective way.

Principle 12. The organization deploys control activities through policies that establish what is expected and procedures that put policies into action.

Points of Focus: Establishes Policies and Procedures to Support Deployment of Management’s Directives | Establishes Responsibility and Accountability for Executing Policies and Procedures | Performs in a Timely Manner | Takes Corrective Action | Performs Using Competent Personnel | Reassesses Policies and Procedures

Once appropriate control activities around sustainability reporting objectives are selected and developed, they can be implemented. These activities can be integrated into business processes and the day-to-day activities of employees. The organization can achieve this through policies that establish what is expected and procedures that put policies into action by specifying the who, what, when, and how. Policies and procedures can clearly establish responsibility and accountability for the diligent and timely execution of control activities and spell out how responsible personnel should investigate matters identified through the execution of these activities and take corrective action. For example, policies and procedures related to sustainability reporting objectives may include the definition of key metrics and units of measure, the assumptions made in calculating data, the reconciliations that are required, the time lines and deliverables for reporting, and the roles and responsibilities involved. These policies and procedures can then be documented and communicated to relevant employees.

Management may also regularly review its policies and procedures to assess their effectiveness in light of any internal or external developments that may warrant their revision. As the understanding of factors impacting sustainability reporting tends to evolve rapidly—both within the organization and among stakeholders—such reviews may be undertaken frequently or even on an ongoing basis. The board and senior management play a significant role in designing policies, procedures, and practices that integrate financial and sustainability performance data linked to strategic objectives. The NACD’s recommendations (cited earlier) that relate to sustainability governance, reporting lines, and authority also apply to this principle.

A CLOSER LOOK: ALASKA AIR GROUP

The airline's controls support operations, compliance, and internal reporting objectives

In January 2017, *The Wall Street Journal* ranked Alaska Air Group (NYSE: ALK) as the best overall performing U.S. domestic airline for the fourth year in a row. Alaska's website states that it is "important to us that we achieve our objective as a socially responsible company that values not just our performance, but also our people, our community, and our environment." Toward that end, Alaska was ranked No. 1 in fuel efficiency for U.S. airlines for the fifth year in a row by the International Council on Clean Transportation.

Alaska sets clear goals and regularly measures and reports performance against those goals. Because Alaska has little control over the caterers and others that service its aircraft in many of the 118 cities it flies, Alaska frequently finds it difficult to capture performance information directly. For that reason, the airline develops processes to estimate the necessary information and implements internal controls to assure both compliance and reliability of the estimated information.

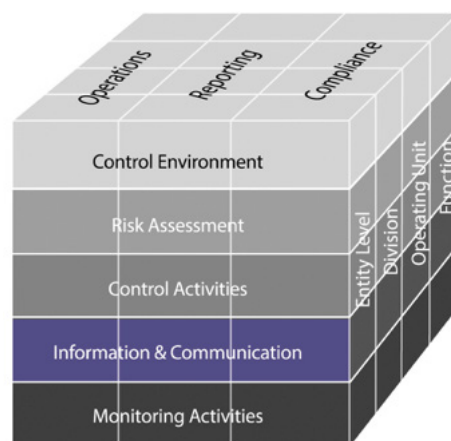
For example, Alaska set a goal to reduce the in-flight waste-to-landfill per passenger from paper, cups, bottles, and cans, principally by increasing recycling collection rates by flight attendants from 56% in 2010 to 86% in 2016. Alaska developed onboard recycling policies and procedures and related internal controls for flight attendants. To determine the actual recycle collection rates by its flight attendants in cities catered by local providers, the company performs routine, random audits of waste from those aircraft, weighing material removed from the aircraft to determine the portions recycled properly and those that are nonrecyclable waste.

Alaska auditors report their audit findings in a web-based document management and storage system, and they aggregate and extrapolate findings using other web-based tools. As a result of these efforts, Alaska calculates that its waste-to-landfill has decreased 20%, or by nearly 1,000 tons, from 2010 to 2016 despite a 27% increase in passenger traffic during that period.

	Environment	Social Capital	Human Capital	Business Model & Innovation	Leadership & Governance
Control Environment					
Risk Assessment					
Control Activities	X				
Information & Communication	X				
Monitoring Activities	X				

COMPONENT: INFORMATION AND COMMUNICATION

Timely, relevant, and reliable information is key to understanding what is happening in both the internal and external business environments. This includes having the appropriate performance measures and communication processes in place to effectively and accurately describe what is happening. Sustainability information is often collected annually (e.g., demographic data about the workforce) or less frequently than financial information, limiting the organization's ability to actively manage performance or identify anomalies within the sustainability data. The organization may interrogate its sustainability reporting infrastructure to determine whether the systems and processes in place are effective for the purposes of identifying, capturing, and communicating accurate information on a timely basis that meets the needs of both internal and external stakeholders.



The information required for this component to be considered present and functioning is not necessarily the same sustainability information typically reported internally for performance management or externally for investor decision making. Rather, in many cases, it will consist of transaction records, activity logs, incident reports, metadata, or leading indicators related to sustainability performance measures. Controls within this component support the organization's ability to use information within and about the system of internal control to execute control activities more effectively. This, in turn, supports the achievement of the organization's reporting objectives, including those related to sustainability. By communicating this information throughout the organization, management sends a clear signal to personnel that sustainability-related control responsibilities must be taken seriously.

An integrated balance of financial and sustainability information is critical for the alignment and execution of strategy, including leading and lagging indicators, short- and longer-term indicators, and those that capture performance across multiple financial and sustainability dimensions, including but not limited to the five SASB dimensions and the four balanced scorecard/strategy map perspectives.

Principle 13. The organization obtains or generates and uses relevant, quality information to support the functioning of internal control.

Points of Focus: Identifies Information Requirements | Captures Internal and External Sources of Data | Processes Relevant Data into Information | Maintains Quality throughout Processing
| Considers Costs and Benefits

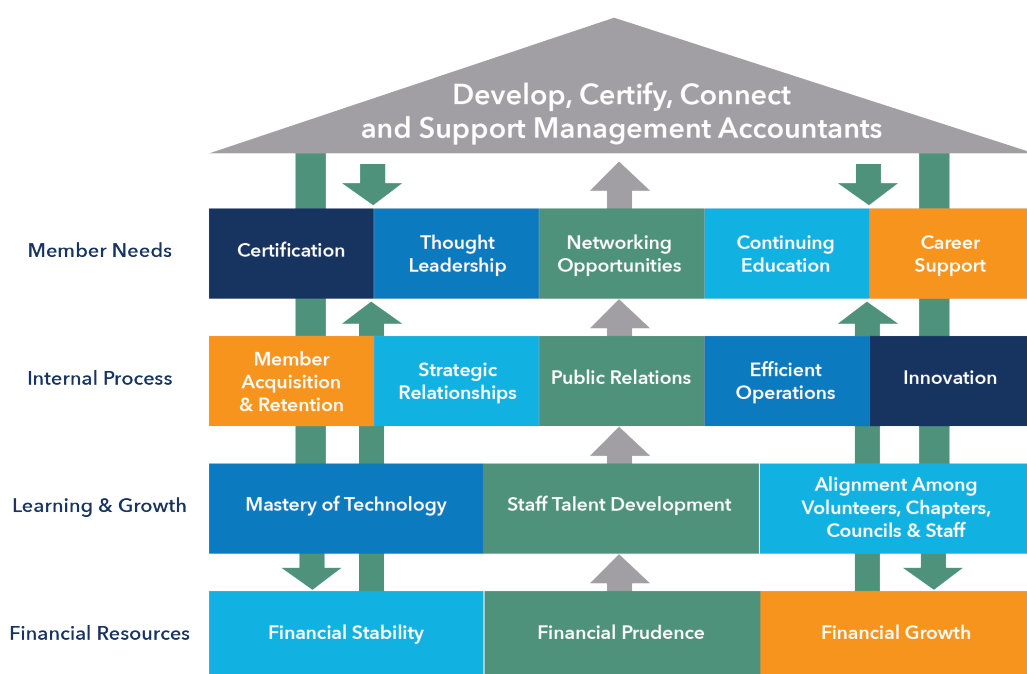
The first step in producing useful sustainability information is to identify the needs and expectations of the users of that information, both internal and external to the enterprise. In many organizations, this may require management to more clearly articulate its evolving sustainability reporting objectives to relevant personnel. A materiality assessment may help establish the most important sustainability factors to monitor and disclose. Additionally, organizations can include questions regarding key sustainability topics and metrics in the controller's questionnaire to gather the information needed to assess the impact associated with the topic in future periods and to confirm that robust procedures are in place. Other existing tools also may be useful for learning more about the data collection and control environment around new disclosures.

Once a shared understanding of sustainability reporting objectives is established, the organization can better identify the information required to execute existing control activities, to select, design, and deploy new ones, and to regularly evaluate the effectiveness of both. This process may draw on both internal (e.g., reports from manufacturing systems, time clocks, customer surveys) and external (e.g., OSPs, peer data, regulation) sources of information, and it may involve considerations of data quality (including analytics and validation), data security, and the cost-benefit ratio of collecting and communicating information.

This principle is likely to become increasingly relevant to sustainability reporting objectives as an organization moves toward improving the quality of its external sustainability performance

disclosures, and it is a must when those disclosures are included in SEC filings. The Framework clarifies that “quality” information is accessible, correct, current, protected, retained, sufficient, timely, valid, and verifiable.⁴³ Although sustainability metrics may not always achieve the same level of precision as financial data (especially in the early stages of implementation), building confidence in this information is still possible with role clarity, documentation, and business process management, such as establishing and maintaining a data governance program that treats the sourcing, collection, review, and reporting of sustainability data as an integrated set of activities.

For example, one COSO member organization not only uses a balanced scorecard/strategy map to formulate its strategy, but also to improve internal and external communication and alignment to achieve specific strategic goals:



The four perspectives are listed on the left (a “member” is generally equivalent to a “customer” in a not-for-profit organization), with both financial and sustainability goals mapped to metrics and actual performance results on a monthly basis. Risks, opportunities, and controls are discussed regularly in an integrated manner, and the board plays an active oversight role. Given that studies have shown that the majority of organizational strategies fail in the execution phase, alignment and integration with a sound system of internal controls across multiple dimensions are critical.

⁴⁴ Robert S. Kaplan and David P. Norton, *The Execution Premium: Linking Strategy to Operations for Competitive Advantage*, Harvard Business Review, 2008.

A CLOSER LOOK: U.S. STEEL

Confidence is a function of transparency at a safety-focused company

Founded in 1901, United States Steel Corporation is an integrated steel producer with major production operations in the U.S. and Central Europe. It is No. 279 on the 2017 *Fortune* 500 list. Headquartered in Pittsburgh, Pa., U.S. Steel manufactures a wide range of value-added steel sheet and tubular products for the automotive, appliance, container, industrial machinery, construction, and oil and gas industries. Safety is U.S. Steel's most important core value, and it is committed to the ultimate safety goal: zero incidents with injury companywide. In fact, in 1912, it was U.S. Steel that coined the universal phrase "safety first." Because safety is U.S. Steel's No. 1 core value, the company has a very rigorous safety process that is transparent and assured for the Occupational Safety and Health Administration, the public, etc., with daily reporting.

	Environment	Social Capital	Human Capital	Business Model & Innovation	Leadership & Governance
Control Environment			X		
Risk Assessment			X		
Control Activities			X		
Information & Communication			X		
Monitoring Activities			X		

According to Colleen Darragh, vice president and controller, "At United States Steel Corporation, we maintain a high level of transparency with our internal control compliance program. This approach has fostered a high organizational confidence of testing performance, reporting, and metrics."

Since its adoption of a Sarbanes-Oxley compliance program, U.S. Steel has used an in-house developed system to maintain control testing, process flows, and results. The system allows a read-only view of all nonconfidential internal control data, including controls processes, control objectives, and test plans. The system is readily available to all employees and control stakeholders within the corporation, allowing them to view real-time results of controls testing. A key feature of U.S. Steel's metrics is an interactive controls dashboard or scorecard, which enables users to view a high-level overview of testing reviews. It also provides the ability to drill down to more granular details of individual corporate locations or control processes.

"Having transparency throughout the entire control environment enables our control owners to leverage operational efficiencies across the organization," Darragh says. "Additionally, it drives a consistent approach to control design and testing."

The transparency on control testing, process flows, test plans, and results demonstrated by U.S. Steel is inclusive of key controls as defined by SOX. The interactive controls dashboard applies to all controls at the entity level.

Principle 14. The organization internally communicates information, including objectives and responsibilities for internal control, necessary to support the functioning of internal control.

Points of Focus: Communicates Internal Control Information | Communicates with the Board of Directors | Provides Separate Communication Lines | Selects Relevant Method of Communication

Once information needs have been identified and relevant data has been sourced, management can begin the ongoing, iterative process of incorporating useful sustainability information into performance management systems, such as dashboards and balanced scorecards, to communicate the direct links between control activities and sustainability reporting objectives. Communication is most likely to be effective when it occurs regularly and is accessible up, down,

⁴⁵ Employee health, safety, and well-being is included in the SASB sustainability dimension of Human Capital.

and across the organization, enabling all functions to understand and carry out their control responsibilities. For example, a manufacturing firm concerned with product quality and safety may wish to track information on defect rates, which may indicate a problem with product design or production processes. This information can facilitate strengthened control over both sustainability reporting and operations objectives.

It is essential that management be available and receptive to internal feedback. To better understand sustainability information needs and to facilitate productive, multidirectional communication, the organization may wish to establish a cross-functional internal controls committee. Additionally, separate channels may be appropriate for confidential or anonymous communication (e.g., whistleblower hotlines) when normal channels become inoperable or ineffective.

A CLOSER LOOK: DOW CHEMICAL COMPANY

Supporting sustainability objectives with a suite of communications strategies

The Dow Chemical Company is an American multinational corporation based in Midland, Mich. In 2016, the company reported annual sales of \$48 billion, making it one of the largest chemical manufacturers in the world.

Because chemical manufacturing operations can potentially affect local communities and broader society through air pollution, the release of hazardous substances, and process safety incidents, companies in the industry rely heavily on their social license to operate. Mark Weick, Dow's director of Sustainability Programs, says, "Our business model depends on stakeholder credibility from a number of different perspectives and audiences, so we've placed a premium on thorough, transparent, and accurate sustainability reporting."

To help ensure the company's sustainability performance data meets its internal and external reporting objectives, it leans on various channels of information and communication for support. For example, to improve internal communication, sustainability metrics have been incorporated into its balanced scorecard, including the 41 publicly reported KPIs related to the company's 2025 sustainability goals. "It's easy to pull up the dashboard and see where we are at any time," Weick says.

The company has also established what it calls the Operating Discipline Management System (ODMS), an enterprise-wide, integrated management system that provides a one-stop shop for company policies, requirements, processes, and best practices. ODMS contains detailed and often technical information regarding roles and responsibilities, work processes, compliance standards, and other information necessary to support the effective functioning of internal control.

Dow also has established open lines of two-way communication with its sustainability assurance partner, which helps the company prepare a list of "corrective action" items to address, including ways to improve the accuracy and reliability of its reported information. "They visit at least three Dow manufacturing facilities around the world [each year], because we want to make sure... that the things we say in America get translated properly into what happens in China or Thailand or Brazil or Germany," Weick says. "They will be pretty brutally honest with us about what is happening, but also about how it's being communicated."

Dow's commitment to transparent sustainability reporting—to stakeholders inside and outside the firm—is one reason it has been recognized as a sustainability leader in the chemical industry by the Dow Jones Sustainability World Index (DJSI) 16 times, including in 2016. "We're a chemical company that plans to do things the right way," Weick says, "because otherwise people get hurt in our community, and we live here, too."

	Environment	Social Capital	Human Capital	Business Model & Innovation	Leadership & Governance
Control Environment					
Risk Assessment					
Control Activities					
Information & Communication	X	X	X	X	X
Monitoring Activities					

Principle 15. The organization communicates with external parties regarding matters affecting the functioning of internal control.

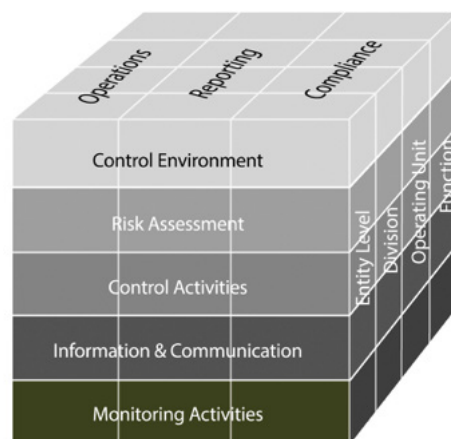
Points of Focus: Communicates to External Parties | Enables Inbound Communications | Communicates with the Board of Directors | Provides Separate Communication Lines | Selects Relevant Method of Communication

Processes also could be established to allow for two-way communication of key sustainability-related information with external stakeholders, such as shareholders, business partners, regulators, auditors, financial analysts, NGOs, and others. These may include policies and procedures for obtaining or receiving information from outside parties and for sharing that information internally. Externally sourced information (e.g., data about human trafficking in the supply chain or the source and use of conflict minerals in electronics manufacturing by production partners) can help management and other personnel identify trends, events, risks, or other circumstances that may affect the entity's ability to achieve its sustainability reporting objectives. For example, problems may arise from weaknesses in the system of controls of a third party, such as a supplier, highlighting the importance of extending the design of internal control beyond the organization to all parties that could impact its reputation. Alternately, supplier inquiries about shipments, receipts, billings, or other unusual activity may indicate operating problems, fraudulent activities, or errors within the organization. Just as with internal communication, it is important for the organization to foster a culture of listening, with management and other personnel making themselves available for—and being receptive to—external feedback. Again, a separate channel for anonymous or confidential communication may be appropriate.

As with any communication, it is essential to tailor the delivery channel and format of outgoing information to the audience, considering all options (e.g., one-on-one conversations, dashboards, web portals, mobile apps, presentations, memos, email, etc.). Given that sustainability reports—and associated internal controls—currently may lack the maturity of their financial counterparts, external parties may have unique information needs that are reflected in the activities they must undertake to get reliable, quality sustainability information for their analysis and decision making (e.g., data conversion, data normalization, data scrubbing).

COMPONENT: MONITORING ACTIVITIES

As changes occur in the internal and external business environments, the organization's objectives and system of internal control will need to adapt accordingly. Monitoring activities assess whether each of the five COSO *components* of internal control and relevant principles is present and functioning in the context of the organization's current circumstances. Management may regularly review the application of the five components to sustainability



information, both for management decision making and for external disclosure (e.g., for regulatory filings).

Reviews performed as *monitoring* activities differ from those performed as *control* activities in that the latter are intended to detect and correct errors, while the former are intended to determine the root cause of those errors. Findings may be evaluated against criteria established by regulators, standard-setting bodies, or management and the board of directors, and deficiencies can be communicated to management and the board as appropriate. The goal is to deploy and maintain sufficient controls for the detection and prevention of material omissions or misstatements in sustainability reporting.

Principle 16. The organization selects, develops, and performs ongoing and/or separate evaluations to ascertain whether the components of internal control are present and functioning.

Points of Focus: Considers a Mix of Ongoing and Separate Evaluations | Considers Rate of Change | Establishes Baseline Understanding | Uses Knowledgeable Personnel | Integrates with Business Processes | Adjusts Scope and Frequency | Objectively Evaluates

In its monitoring activities, management may employ a mix of *ongoing* and *separate* evaluations. *Ongoing* evaluations are routine operations that are built into business processes to react to changing circumstances in real time. For example, a software firm measuring its energy consumption may embed a software routine to flag unusual performance results using confidence intervals based on past results. Anomalies may then be evaluated to determine whether control deficiencies exist or corrective action is required. *Separate* evaluations are conducted periodically by internal audit or another compliance function, with their scope and frequency determined by management judgment. Separate evaluations are often performed in higher-risk areas to confirm or enhance the findings of ongoing evaluations. For example, a commercial bank's data security specialist may periodically evaluate the bank's compliance with relevant information security standards and/or best practices as they evolve.

As the market's understanding of the material impacts of many sustainability factors tends to be emerging and/or evolving, organizations may wish to conduct more frequent separate evaluations of relevant controls, for example, those related to a changing regulatory environment. The organization may also wish to determine whether independent third-party assurance of its sustainability information is appropriate. As sustainability information is integrated into statutory filings, monitoring activities such as ongoing and separate evaluations can support external sustainability reporting objectives, including management's assertions over the entity's system of internal control.

Principle 17. The organization evaluates and communicates internal control deficiencies in a timely manner to those parties responsible for taking corrective action, including senior management and the board of directors, as appropriate.

Points of Focus: Assesses Results | Communicates Deficiencies | Monitors Corrective Actions

Having conducted ongoing and separate evaluations, the organization’s management and the board of directors can assess the findings, communicate deficiencies to the appropriate parties, and monitor corrective actions to ensure problems are addressed in a timely fashion. This may involve establishing protocols for the reporting of identified deficiencies and for following up on remediation efforts.

As organizations’ sustainability reporting efforts become more sophisticated and associated information is incorporated into robust accounting systems, management and the board of directors may find it valuable to use automated data analytics tools and techniques to continuously monitor controls over the entity’s most crucial sustainability factors. This should enable the organization to more quickly and efficiently identify changes, unusual trends, and expectation gaps related to anomalies or abnormalities.

A CLOSER LOOK: HOST HOTELS & RESORTS

Using technology to monitor utility data

Host Hotels & Resorts is a Bethesda, Md.-based lodging real estate investment trust (REIT) company focused on luxury and upper-upscale hotel and resort brands such as Marriott, Ritz-Carlton, Westin, and W Hotels, among others. It trades on the New York Stock Exchange and reported \$5.4 billion in revenue for 2016.

The company pursues sustainability as an avenue to enhance the value and profitability of its portfolio. It works closely with third-party management companies and other stakeholders to assess and address sustainability-related risks, such as those related to energy and water management, as well as opportunities, such as green building technologies that reduce operating expenses, create economic value, and drive investor returns.

Although many of Host’s process-level control activities are managed by partners, the company has established monitoring activities that allow it to perform ongoing and separate evaluations of internal controls to ensure they are present and functioning—or to follow up with corrective action if they are not. For example, if a site’s energy consumption spikes, a report alerts Michael Chang, director of Energy & Sustainability, who then works with staff, partners, and consultants to determine whether follow-up is necessary or “if it’s just that something was accidentally turned on for 24 hours.” He uses monthly gap reports and quarterly energy performance reports to assess how items have been or should be addressed.

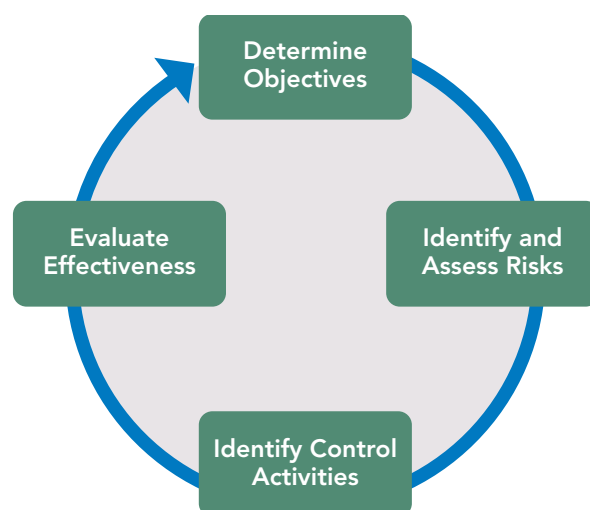
Host’s monitoring activities also support the achievement of internal sustainability reporting objectives. “Because the utility information is fed into our business intelligence,” Chang says, “we have a category of energy and water projects we can assess based on their payback.” Such projects may include more efficient lighting, water fixtures, or HVAC systems. Chang also hopes to eventually expand the company’s ability to perform ongoing monitoring activities via real-time energy management platforms, which are currently being piloted at a handful of sites. “Even though we have high confidence in our utility numbers, it’s still a struggle to get real-time information that is accurate,” he says. “Using real-time platforms, we’re able to not only see how much power is going to lighting and different areas of the property, but we can monitor whether specific systems and the building are operating efficiently.”

	Environment	Social Capital	Human Capital	Business Model & Innovation	Leadership & Governance
Control Environment					
Risk Assessment					
Control Activities					
Information & Communication					
Monitoring Activities	X			X	

Recommendations

As the discussion and examples make clear, applying effective internal controls to sustainability performance data constitutes a newly emerging use of existing control concepts. Thus, few best practices have been established. Many organizations, including those identified in this paper, have designed and maintain ad hoc controls around certain key sustainability metrics—providing valuable cues for others to follow. Many also perform internal verification procedures to ensure management comfort with this information. Yet few of them seem to have developed effective, integrated systems of internal control over their material sustainability information. As a result, internal and external decision makers often lack full confidence in this information to support their needs despite the increased focus of organizations and their stakeholders on sustainability performance measures.

No matter the circumstances, an organization beginning to design its internal control over key sustainability performance data can—and likely should—follow the same basic approach it has for ICFR:



1. **Determine objectives:** The organization could establish, document, and communicate internal and external sustainability reporting objectives and establish accounting principles for specific sustainability factors with sufficient detail that they may be applied properly during—and assessed for potential risks in—the process of preparing the sustainability data.
2. **Identify and assess risks:** To identify significant risks, the organization could evaluate the relevant qualitative and quantitative risk factors—for example, those that might result in a material misstatement—that are reasonably likely to jeopardize the achievement of its sustainability reporting objectives, including a determination of the extent of the risk and whether and how it should be managed.

3. Identify control activities: With an understanding of the risks to achieving sustainability reporting objectives and the processes that underpin the measurement, management, and reporting of the data, the organization could identify specific control activities to manage a risk or mitigate it to an acceptable level.

4. Evaluate effectiveness: Having established internal control over sustainability performance data, the organization can regularly evaluate its design and operation to determine whether or not the Framework components and principles are present and functioning.

As some examples in this paper have illustrated, applying a systematic, consistent framework to the achievement of an effective system of internal control over sustainability reporting and communications can result in a variety of benefits, including:

- Enhanced data quality, utility, comparability, and reliability
- Strengthened ability to support operations and compliance objectives
- Better-informed decision making by both internal management and external investors/other stakeholders
- Enhanced understanding of material risks and ability to mitigate them
- Greater overall market efficiency
- Increased access to and lowered cost of capital

These benefits are most likely to accrue for those organizations that have aligned their sustainability objectives with their business strategy by focusing on the issues most likely to have material impacts.

ACHIEVING INTERNAL BENEFITS

Metrics related to key sustainability issues can provide organizations with business intelligence to support internal decision making and the management of performance and impacts. In reviewing its management of key sustainability information for internal reporting objectives, an organization may wish to consider the following factors related to its data governance and management practices (this does not represent a comprehensive list of considerations, but rather an attempt to highlight certain key aspects of such an assessment):

- Does the organization's creation, collection, validation, storage, use, archiving, and deletion of sustainability-related data assets adhere to its data governance policy or strategy to support responsible management?
- Is relevant, reliable sustainability information integrated into existing management reporting systems, processes, and reports? If so, is management actively using this information to run its operations? If not, why not?
- Is data lineage (the connection to its original sources) maintained throughout the information systems and supply chain?

- Does the organization leverage technology to establish and maintain data lineage, access information, and connect to source data? If not, can it readily do so?
- Are relevant connections and dependencies maintained/preserved between sustainability information and other types of information?
- How often is key sustainability data collected? Can it be collected and reported internally in a timely and cost-effective manner?
- When appropriate, is material sustainability information integrated into the key analyses supporting management decisions, such as those related to resource allocation, product development, mergers and acquisitions, compliance, and risk management?
- Are employee and supply chain partner incentives aligned with the organization's sustainability reporting objectives?

DELIVERING EXTERNAL BENEFITS

Meanwhile, the same information can provide decision-useful disclosures for external users, such as investors. In reviewing its data management practices for sustainability-related KPIs specific to external sustainability reporting objectives, an organization may wish to consider the following factors (this is not intended to be a comprehensive list):

- Is key sustainability information integrated into existing reporting systems and/or ERP platforms? If not, can it be readily incorporated? Or can effective controls be built around current or other reliable systems and platforms?
- Have consistent, formal policies been established across the organization to help ensure reliable sustainability data collection, validation, analysis, and reporting/communication?
- Has the organization established and communicated clear ownership of and accountability for the collection, validation, and reporting/communication of key sustainability information?
- Are the organization's sustainability reporting/communication processes well documented, including controls to prevent or detect misstatements?
- Have internal audit, the compliance team, the CFO team, and/or relevant third parties such as the external assurance provider been engaged to review the quality of key sustainability information, supporting processes, and the system of internal control?
- Is there confidence in data quality?

KEY TAKEAWAYS FROM MARKET OUTREACH

A number of key themes—and important takeaways—have emerged as organizations begin or continue their journeys toward establishing and maintaining an effective system of internal control over financial and sustainability performance data. Despite the fact that internal control over sustainability performance data is not well established in practice, crucial insights can be gained from the experiences of those organizations that are leading the way for others, including:

- **Cultivate a culture of accountability:** For internal control over sustainability performance data to function effectively, it is essential that everyone involved in the collection, validation, management, and reporting/communication of sustainability information understands the strategic significance of organizational performance on key issues as well as the critical importance of effective controls to ensure that decision makers have access to reliable information about that performance. As Mark Weick of Dow points out, “You need to make the appropriate investments in internal process to make sure you have the right kind of data or reporting on material issues.” Yet, just as important, he adds, “There has to be a company culture developed to support that idea; if you’re constantly bucking up against your culture, you can have real problems.”
- **Establish a cross-functional team:** Assembling and educating a cross-functional team can be a valuable early step to start the integration process. Such a team provides diverse perspectives and subject matter expertise in assessing sustainability-related issues, metrics, and controls. Organizations may wish to draw from a diverse set of departments, potentially including but not limited to finance and accounting; sustainability; environmental, health, and safety (EH&S); risk management; internal audit; investor relations; strategy; operations; information technology; compliance; and human resources. Some organizations might even consider inviting key supply chain partners to participate.
- **Leverage existing expertise:** It’s important to keep in mind that internal control over sustainability performance data is a new application of tried-and-true concepts from control over financial information, and the CFO team has already developed considerable expertise in applying those concepts to ICFR. Because of its experience and understanding—not just with internal control, but with data measurement, management, reporting, and analysis—the finance and accounting team is well positioned to drive the design, establishment, and maintenance of internal control over sustainability performance data. Over time, CFO teams can help educate and train other organizational functions how to ensure their sustainability data achieves the same quality and credibility as financial data and how it can be integrated more easily into ongoing performance management and the periodic external reporting cycle.
- **Leverage existing controls:** Although internal control over some sustainability performance data may require the establishment of new controls, many controls that already exist as part of ICFR may apply equally to sustainability information. For example, automated controls built into IT platforms, data governance policies, or established monitoring techniques can be leveraged in the design and development of the control system over sustainability data.
- **Leverage enabling technologies and platforms:** Organizations should consider how they might adapt existing or emerging technologies to establish and maintain an effective system of internal control over sustainability performance data, bearing in mind that

technologies may carry their own risks (e.g., business continuity risks related to system failure, security risks related to cloud-based data storage, integration risks associated with “ripping and replacing” systems, etc.). By incorporating sustainability information into IT platforms with well-established controls, an organization can significantly improve decision-maker confidence in data that has traditionally been measured, validated, managed, and reported outside the formal financial control environment.

- **Focus on materiality:** Organizations may be reluctant to establish internal control over sustainability performance data due to many factors, not the least of which is the sheer volume of data that might be covered—for example, the dozens (or, in some cases, hundreds) of KPIs that are typically included in a sustainability report. Such an undertaking could involve a significant amount of time, effort, and cost. By viewing sustainability through the lens of financial materiality, however, an organization can focus on covering a small subset of sustainability metrics that are most important to its success over time by reducing risk and contributing to growth and value creation.
- **Start early:** It can take time to design and refine a system of controls that fully supports reporting objectives, so it’s important to begin the conversation sooner rather than later. “I would say start that discussion early,” Michael Chang of Host Hotels & Resorts says. “Be sure to really be in agreement on what these metrics represent and how they are calculated.”

Each of these lessons is likely to prove more valuable to an organization that has integrated its sustainability practices and business strategy. Just as an entity’s control environment provides the foundation for effective ICFR, it is also an essential starting point for designing, implementing, and maintaining an effective system of internal control over material sustainability performance data. As John DeRose, an executive director in EY’s Climate Change and Sustainability Services practice, points out, setting the right tone at the top regarding the organization’s approach to sustainability is key to this effort.

“Proactive, forward-thinking companies have begun to recognize that certain ESG factors are integral to their ability to manage risk, create sustained value, or even achieve competitive advantage,” adds DeRose. “When the small handful of truly critical sustainability issues are integrated into a company’s core strategy, the need for effective controls, processes, and related training and governance becomes apparent,” he says.

By leveraging existing assets—such as the COSO Framework and related concepts—organizations can accelerate their progress. As previously noted and according to DeRose, “The effort to develop and implement this type of holistic approach to the management of these critical issues is often not a matter of starting from scratch, but more often connecting the dots, making improvements, and filling the gaps—the benefits of which may be quantified on the front end or intrinsic to risk avoidance and brand protection.”

Concluding Remarks

This paper has attempted to provide readers with an understanding of the factors driving the need for an integrated system of internal control over sustainability performance data, the current state of its evolution, and some of the key issues to consider when applying the COSO *Internal Control—Integrated Framework* to set reporting objectives and build confidence in material sustainability information. Because it is an emerging practice, we hope that by providing thought leadership in this area will motivate organizations to establish and maintain more effective systems of internal control over sustainability performance data as a foundation for enhancing their communications and reporting to internal decision makers and external stakeholders alike.

The authors are committed to improving the quality and reliability of sustainability performance data to the benefit of all decision makers, including companies, their investors, and society at large. When applied in an integrated manner to financial, sustainability, and other nonfinancial performance measures, the COSO *Internal Control—Integrated Framework* not only helps protect the public interest and safeguard assets, but it also is “good for business”—ethically sound, growing businesses generating sustainable value over the short, medium, and long term.

Resources

Readers of this thought paper may also find value in the following resources.

COSO:

Internal Control—Integrated Framework, 2013

Enterprise Risk Management—Integrated Framework, 2004 (Update expected in late 2017)

COSO in the Cyber Age, 2015

Improving Organizational Performance and Governance: How the COSO Frameworks Can Help, 2014

IMA:

The Evolution of Accountability, Sustainability Reporting for Accountants, 2014

“Strategy Maps” by Robert S. Kaplan and David P. Norton, *Strategic Finance*, March 2004

“The Balanced Scorecard: 20 Years and Counting” by Mark Frigo, *Strategic Finance*, October 2012

“The Balanced Scorecard at Futura Industries” by Andra Gumbus and Susan D. Johnson, *Strategic Finance*, July 2003

“Balanced Forecasts Drive Value” by Robert E. Paladino, *Strategic Finance*, January 2005

“How ZYSCO Uses the Balanced Scorecard” by Yuanhong Chen, Zengbiao Yu, and Thomas W. Lin, *Strategic Finance*, January 2015

SASB:

Implementation Guide for Companies, 2016

Industry Standards: A Field Guide, 2017

The State of Disclosure, 2016

SASB Navigator

Additional resources:

AICPA, *Attestation Engagements on Sustainability Information (Including Greenhouse Gas Emissions Information)*, July 27, 2017

WBCSD, *Sustainability and Enterprise Risk Management*, January 18, 2017

WBCSD Future Leaders, *Controlling Non-Financial Reporting*, 2013

IIRC (International Integrated Reporting Council), *The International <IR> Framework*, December 2013

Appendices

APPENDIX A: THE SASB'S SUSTAINABILITY DIMENSIONS

The SASB's sustainability topics are organized under five broad sustainability dimensions:

- 1. Environment.** This dimension includes corporate impacts on the environment, either through the use of nonrenewable, natural resources as inputs to the factors of production (e.g., water, minerals, ecosystems, and biodiversity) or through harmful releases into the environment (such as air, land, and water) that may negatively affect natural resources and result in impacts to the company's financial condition or operating performance.

***Examples:** Greenhouse gas emissions, air quality, energy management, fuel management, water and wastewater management, waste and hazardous materials management, biodiversity impacts*

- 2. Social Capital.** This dimension relates to the perceived role of business in society or the expectation that a business will contribute to society in return for a social license to operate. It addresses the management of relationships with key outside parties, such as customers, local communities, the public, and the government. It includes issues related to human rights, protection of vulnerable groups, local economic development, access to and quality of products and services, affordability, responsible business practices in marketing, and customer privacy.

***Examples:** Human rights and community relations, access and affordability, customer welfare, data security and customer privacy, fair disclosure and labeling, fair marketing and advertising*

- 3. Human Capital.** This dimension addresses the management of a company's human resources (employees and individual contractors) as key assets to delivering long-term value. It includes issues that affect the productivity of employees, such as employee engagement, diversity, and incentives and compensation, as well as the attraction and retention of employees in highly competitive or constrained markets for specific talent, skills, or education. It also addresses working conditions and the management of labor relations in industries that rely on economies of scale and compete on the price of products and services, and in industries with legacy pension liabilities. Finally, it includes the management of the health and safety of employees and the ability to create a safety culture for companies that operate in dangerous working environments.

***Examples:** Labor relations; fair labor practices; diversity and inclusion; employee health, safety, and well-being; compensation and benefits; recruitment; development; and retention*

- 4. Business Model and Innovation.** This dimension addresses the impact of sustainability issues on innovation and business models. It addresses the integration of environmental, human, and social issues in a company's value-creation process, including resource recovery and other innovations in the production process; as well as in product innovation, including efficiency and responsibility in the design, use phase, and disposal of products. It also includes management of environmental and social impacts on tangible and financial assets—either a company's own or those that it manages as the fiduciary for others.

Examples: *Life cycle impacts of products and services, environmental and social impacts on assets and operations, product packaging, product quality and safety*

- 5. Leadership and Governance.** This dimension involves the management of issues that are inherent to the business model or common practice in the industry and that are in potential conflict with the interest of broader stakeholder groups (e.g., government, community, customers, and employees), and therefore create a potential liability or, worse, a limitation or removal of a license to operate. This includes regulatory compliance and regulatory and political influence. It also includes risk management, safety management, supply chain and materials sourcing, conflicts of interest, anticompetitive behavior, and corruption and bribery.

Examples: *Systemic risk management, accident and safety management, business ethics and transparency of payments, competitive behavior, regulatory capture and political influence, materials sourcing, supply chain management*

See the Resources section for links to more information on the SASB, the SASB standards, and the sustainability dimensions.

APPENDIX B: BALANCED SCORECARD

The balanced scorecard recognizes that effective management requires the consideration of both financial and operational KPIs when evaluating the performance of an organization and its divisions. Financial metrics tend to be backward-looking, while operational metrics—including many sustainability metrics—tend to drive future performance. The scorecard views an organization from four perspectives, each evaluating a key aspect of organizational performance:

1. Financial perspective: How do shareholders (or donors) view the organization?

Sustainability-related KPIs: Revenue from products that contain REACH substances of very high concern (SVHC); revenue from zero-calories, low-calorie, no-added-sugar, and artificially sweetened beverages; revenue from products labeled and/or marketed to promote health and nutrition attributes

2. Customer perspective: How do customers (or members) view the organization?

Sustainability-related KPIs: Medical Loss Ratio (MLR) = medical costs as percentage of premium revenue; ratio of weighted average rate of net price increases for products to the annual increase in the U.S. Consumer Price Index; number of recalls and total units recalled

3. Internal business perspective: What business processes are key to achieving organizational objectives?

Sustainability-related KPIs: Percentage of eligible products by revenue that meet ENERGY STAR criteria; percentage of electric load served by smart grid technology; number of zero emission vehicles (ZEV), hybrid vehicles, and plug-in hybrid vehicles sold

4. Learning and growth perspective: How can the organization continue to improve and create value?

Sustainability-related KPIs: Employee engagement as a percentage; voluntary and involuntary employee turnover rate for employees; amount of legal and regulatory fines and settlements associated with customer privacy

Used in conjunction with a balanced scorecard, a strategy map provides a quick-glance overview of an organization's strategy and performance, linking KPIs to strategy and communicating objectives and roles to employees throughout the enterprise.

For more information on balanced scorecards and strategy maps, see the Resources section.