

DEVELOPMENT IN SUSTAINABILITY REPORTING: EARLY EVIDENCE ON CORE INDICATORS

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Abstract

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The development of sustainability reporting has accelerated in recent years (Turzo et al., 2022) due to the activities of numerous actors. The United Nations (UN) adoption of the Sustainable Development Goals (SDGs) has given an added impetus to financial reporting as companies (Pedersen, 2018) are shown as one of the main players that can sensitively contribute to the achievement of these goals. To support this, a set of indicators on sustainable development (Mair et al., 2018) was developed for implementation in non-financial reporting under a joint of International Standards of Accounting and Reporting (ISAR) and the United Nations Conference on Trade and Development (UNCTAD) project. This study concentrates on the effectiveness of the core indicators chosen by UNCTAD as showcased in the ISAR-UNCTAD sessions from 2017 to 2022. Case studies were conducted across various industries, geographies, and company sizes, aiming to evaluate the implementation of these indicators. Most companies could report on most core indicators, although challenges in consistent measurement, comparability, and reporting on environmental and social indicators were observed. The analysis concluded that while most indicators could be reported, providing further technical guidance, and building capacity at all levels is crucial for effective SDG reporting and realizing the 2030 Agenda. As companies become more familiar with the core indicators, the process of preparing sustainability reporting based on the guidance on core indicators (GCI) becomes easier.

Keywords: Sustainability, Non-Financial Reporting, Environmental, Social, and Governance (ESG), Corporate Social Responsibility (CSR), Non-Financial Disclosure

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1. INTRODUCTION

The latest and most crucial step in sustainable development is the adoption by the United Nations (UN) of “Transforming our World: The 2030 Agenda for Sustainable Development” (Department of Economic and Social Affairs, 2015) in which a conceptual framework for the current and future

peace and prosperity of people and the planet is provided (Fonseca et al., 2020).

Within this project, all member countries of the UN, after a shared journey with various stakeholders, defined a set of Sustainable Development Goals (SDGs), modeled after the previous Millennium Development Goals (MDGs). Although there has been no shortage of doubts

about the actual achievability of these goals, several parties have remarked on the importance of this achievement (Stafford-Smith et al., 2017).

Compared to the previous 8 MDGs, the number of goals was increased to 17, focusing on sustainable development that, considering the so-called triple bottom line (Elkington, 1999), would ensure economic growth, environmental protection, and social inclusion. Although the goals outlined by the UN cover many issues, from poverty to hunger, from energy to climate (Fonseca et al., 2020), and are addressed to all actors in society: governments, nonprofit organizations, civil society, and the private sector (Mio et al., 2020), among these, the private sector has been recognized as having a unique role in pursuing the SDGs because of its financing capacity, sector-specific knowledge and experience, managerial capability, and propensity for risk-taking (Berrone et al., 2019).

These economic activities are recognized as having a key role in achieving sustainable development (Datta & Goyal, 2022). For the organizations that conduct these activities, sustainable development presents a new challenge in defining their strategies, conducting their operations, and reporting on them (Bebbington & Unerman, 2020).

Recent empirical evidence shows that incorporating the SDGs into business strategies achieves results such as better financial performance, development of products with higher added value, better long-term performance, cost reduction, and better investor relations (Lassala et al., 2021).

Thus, following the introduction of the SDGs, companies have begun to disclose and represent their involvement in these goals, just as many countries have begun to regulate the SDGs-related contribution of large organizations (Pizzi et al., 2022).

Since the adoption of the SDGs, and the MDGs first, numerous conceptual frameworks (Küçükgül et al., 2022) and guidelines have been developed about corporate commitment to sustainability; currently, Global Reporting Initiative (GRI) and International Integrated Reporting Council (IIRC) are the two major standard setters to which companies turn. The purpose of the conceptual frameworks is to assist companies in presenting information about their environmental, social, and economic impacts to their shareholders. The principles (Global Sustainability Standards Board [GSSB], 2021; Integrated Reporting, 2021) identify transparency, conciseness, reliability, completeness, consistency, future orientation, and comparability as key characteristics of non-financial reporting (Küçükgül et al., 2022). These principles are complemented by other documents issued by the standard setters of the main principles of non-financial reporting such as the four GRI guides (SDG Compass, The Practical Guide, Analysis of Goals and Targets, and Addressing the Investor Needs) and the two Integrated Reporting (IR) guides (The Sustainable Development Goals, Integrated Thinking, and the Integrated Report, SDG Disclosures). Parallel to the work of the UN, non-financial disclosure has attracted the attention of academics and practitioners, who have long signaled the need for companies to implement and improve this form of reporting (Doni et al., 2020) and also at the regulatory level, a huge step forward in the awareness of

the need for corporate social responsibility (CSR) reporting was made with the enactment of the European Union (EU) Directive 2014/95 (Caputo et al., 2019), according to which large companies, with more than 500 employees, must prepare a disclosure document on the development, results, positioning, and impact of their business about environmental, social, labor, human rights, anti-corruption, and bribery issues starting from the fiscal year 2017. National transpositions of the Directive have since confirmed that the most critical issue in non-financial disclosure implementation is the choice of the best conceptual framework and the best set of principles, although early evidence shows that the two sets of principles mentioned above are the ones most chosen by non-financial reporting preparers (Doni et al., 2020). Moreover, despite the existence of various standards, regulations, and initiatives, the state of the art of CSR in general and NFD is still very uncertain and in flux, confusing guidelines, and practices around the world (Turzo et al., 2022). Suffice it to say that no real definition of non-financial reporting is currently identifiable, but only several examples of environmental, social, and governance (ESG)-related information. In addition, the terms disclosure and reporting are also used as synonyms although they have different meanings, just as non-financial reports are differently labeled (Eccles & Krzus, 2010). Also, as part of the 2030 Agenda, the United Nations Conference on Trade and Development (UNCTAD) has prepared "Guidance on Core Indicators for Entity Reporting on Contribution towards Implementation of the Sustainable Development Goals" (UNCTAD, 2019a). Specifically, SDG 12 includes as goal No. 6 the encouragement of large corporations and multinational corporations to adopt sustainable practices and sustainability reporting. Indicator 12.6.1 is precisely the number of entities that publish sustainability reporting, while the other indicators refer to the three ESG areas (environmental, social, and institutional) plus the economic area already developed by economic and financial reporting. These indicators are developed according to methodologies, selection criteria, reporting principles, and accounting data explained in the UNCTAD (2019a, 2020). The use of indicators and indices for development goals is much debated (Hák et al., 2016). In part, this depends on past propositions of indicators and demand for new and better indices. On the other hand, there is no consensus on how the development of indicators should best be managed, that is, whether to act in a coordinated and regulated manner about the issuance of indicators or whether to leave room for the strategy of "survival of the fittest (indicator)" (Dahl, 2012).

Based on these premises, the state of the art of CSR reporting is as fragmented as ever in terms of transnational projects, EU and national regulations, reference principles, and especially in terms of practices conducted by companies. This paper aims to shed light on the first empirical evidence in light of the indicators that non-financial reporting should offer in the SDGs theme.

The rest of this paper is structured as follows. Section 2 conducts a review of the existing literature on SDGs, CSR, and integrated reporting. Section 3

describes the main frameworks for non-financial reporting and covers the methodology followed by Section 4 providing the results achieved and their discussion. Section 5 concludes the paper.

2. LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

The existing literature is vast as, starting from the general concept of sustainable development, it is outlined in all the studies done on sustainability and the national, international, and business initiatives related to the SDGs. In parallel and specifically concerning business, the whole strand of CSR has developed those overlaps with ESG issues.

The first questions about the impacts on the environment by our civilization date back at least two centuries, but the terms “sustainable development” and “sustainability” began to be used in 1987 when the World Commission on Environment and Development (Brundtland Commission) published the report “Our Common Future”. The report found the first definition of sustainable development as development that meets the needs of the present without compromising the ability of later generations to meet their own needs. Since then, although the concept has been debated and criticized, it has become a benchmark for scientific research and sustainability the main paradigm for development (Ruggerio, 2021). Since then, although the concept has been debated and criticized, it has become a benchmark for scientific research, and sustainability is the main paradigm for development. The centrality of this issue depends on many factors. First, having originated from UN initiatives, it has been incorporated into various treaties, rules, regulations, and other acts. Second, it can be applied in various fields of research: business, agricultural and industrial production, and urban development. In addition, it has become the foundation of various theoretical frameworks such as the circular economy and green economy (Kirchherr et al., 2017).

Despite the attention obtained by sustainable development, the issue is still far from having a precise definition and needs further scientific research to be useful in decision-making processes (Bolis et al., 2014). Starting from the definition given by the World Commission on Environment and Development (1987), the main criticisms have been about its alleged vagueness or contradictory nature (Spaiser et al., 2017). The vagueness can be attributed to the proliferation of definitions and the different meanings given to them by different people (Bolis et al., 2014). The contradiction in terms of the expression sustainable development can be attributed to the impossibility of indefinitely sustaining economic growth on a resource-limited planet. On the contrary, some authors see the ambiguity and elasticity of the concept of sustainable development as the main factor in its success. Others seek to overcome the incompatibility between sustainable development and economic growth, arguing that economic growth is indispensable to obtain the resources necessary to have sustainability. This approach is consistent with Kutnetz’s (1973) assumptions that economic growth is a benefit to environmental quality. It can be said that the term “sustainable development” is so vague

and generic that it can be appropriate for different orientations about development and by different interlocutors (Barbosa et al., 2014).

In summary, despite the contradictions and diversity of interpretations of the concept of sustainable development, we can think of sustainable development as that process that encompasses both economic and social development to protect and improve the natural environment, social equity, and the well-being of human beings.

The term “sustainability” has also been the subject of some debate, so much so that it has been called “problematic” (Korca et al., 2021). The use of the term first spread about the exploitation of natural resources such as forests and fisheries, but it later spread as a social movement to protect the environment and the ecosystem. This ecological vision of sustainability developed around two concepts. The first is understood as the capacity of the natural environment to sustain human life; the second is the impact of human productive activity on the natural environment that is, by definition, harmful. The latter concept means that sustainability also extends to business and, although primarily focused on ecology, contains an economic (and social too) element, but is still linked to the system concept. For this reason, sustainability is to be understood as broad public policy and as a guide for making ethical decisions by managers, politicians, and activists (Sheehy & Farneti, 2021). Sustainability is therefore the goal of various actions and behaviors that have sustainable development as the main process by which to achieve this goal.

It is evident that the use of the term sustainable development and sustainability, even as synonyms, has led, especially in practical implications, to some confusion and misunderstanding. Precisely because of this, the MDGs first and the SDGs later have been seen as a major step forward in the definition and application of sustainable development and sustainability.

The process of sustainable development mentioned in the Brundtland report (World Commission on Environment and Development, 1987) and sustainability as the goal, although they represented a historic step for society, had left many doubts, especially in their systemic application, so much to generate a heated academic debate (Hopwood et al., 2005). As a result, setting goals and targets for global sustainability and human development were considered a major achievement (Stafford-Smith et al., 2017), although a minority section of the doctrine has not spared criticism of the project, even in very provocative tones (Horton, 2014). Others were quick to point out the lack of certain issues such as migration, terrorism, capital flight, and democracy (Gasper, 2019). But the consensus on the SDGs has identified them as a shared expression of the needs of all stakeholders that offers a balance between economic, social, and environmental development (Fonseca & Carvalho, 2019) and an opportunity to create a single conceptual framework for ensuring human prosperity in an era of increasing environmental risk (Griggs et al., 2014). The global scope of the SDGs and the multiple issues they address have caused research on these goals to develop in many directions. The 17 goals are divided into 6 macro-areas: dignity, people, planet, partnership, justice,

and prosperity. Several authors have wondered about the relationships among the various ESGs, but with results of limited relevance (Allen et al., 2018). Some authors have identified various relationships, but also tradeoffs among the goals. In some cases, it has been observed that the attainment of one goal makes the attainment of another impossible or that the attainment of another goal depends in turn on an additional goal (Nilsson et al., 2016). For example, Barbier and Burgess (2017) note that poverty reduction (SDG 1: No poverty) benefits clean water and sanitation (SDG 6) and hunger eradication (SDG 2: Zero hunger) outcomes but simultaneously, at the expense of other environmental and social goals, just as Singh et al. (2018) note that the preservation of marine areas, linked to ocean sustainability, precludes access to new coastal resources. More generally, various authors (e.g., Barbier & Burgess, 2019) agree that economic and industrial development hurts other environmental and economic goals. Even a UN report (UN, 2018) on progress since the enactment of the SDGs points out that while child and maternal mortality and extreme poverty have decreased, the sustainability of forest and marine areas has declined. Stafford-Smith et al. (2017) argue that the relationships among the various SDGs should be studied in three areas: production sectors (e.g., finance, agriculture, energy, technology, transportation), social actors involved (local authorities, governments, private sector, citizens), and countries, differentiated by income. Although SDGs refer to various components of society, primarily governments, the private sector, and especially large corporations, is reserved a key role in achieving sustainability goals (Mio et al., 2020). Several authors have pointed out that the role of business in sustainable development is undeniable (García-Sánchez et al., 2020; Sullivan et al., 2018) but the actual contribution to this is still debated (Wicki & Hansen, 2019). However, SDG 12 and SDG 17 indicate a clear contribution of businesses in achieving the goals (Montiel et al., 2021), specifying that large entities should adopt sustainability-oriented practices and introduce sustainability information into their reporting forms. The reference to corporate sustainability reporting provided for by the SDGs (SDG reporting), together with legislative and regulatory interventions by EU and/or national institutions has therefore directly involved the issue of sustainability reporting, which CSR and ESG have already addressed (Zaman et al., 2022).

There is no doubt that global and local and sustainable development initiatives have raised corporate awareness of the issues outlined so far, but the consideration that they have a responsibility to society is not new. Although CSR and ESG can and are used synonymously, they cover slightly different concepts. CSR derives from the early reasoning that was made in the literature about the social performance of corporations and their specific responsibilities (Latapi Agudelo et al., 2019). When the perception of corporate responsibility began to be evaluated in ethical, regulatory, economic, and in terms of meeting society's expectations, the expression CSR began to be widely used the acronym ESG was coined in 2004 by 20 financial institutions to signify that the business model of companies and (Datta & Goyal, 2022) investors should consider ESG elements. It is precisely ESG's explicit reference to corporate governance, which is

absent in CSR, which makes the concept of ESG broader than CSR, also because it can be extended to non-corporate settings. Thus, CSR is best defined as self-regulation, including international self-regulation, of the private sector, as transnational regulation, and as the application of the broad concept of SDGs to a narrower business context (Sheehy, 2014).

The concept of corporate sustainability has also been drawn within the area of sustainability, but it is markedly different from both sustainability and CSR (Sheehy & Farneti, 2021). Corporate sustainability derives from the effort, on environmental motivational grounds, to include environmental concerns in the business organization to adapt to global trends and improve efficiency and reputation. Moreover, again part of the literature (Sheehy, 2014), the concept of corporate sustainability does not extend to the ethical foundations and international regulation that characterize CSR, and concerning the latter, it remains a subordinate concept.

The various initiatives in the areas of sustainability and sustainable development, CSR awareness, and corporate sustainability have an enormous impact on corporate reporting since this is, as also indicated by one of the SDGs, the first source of information on how far the various initiatives mentioned above have concrete implementation. To tell the truth, even before these, various parties emphasized the need for non-financial reporting that would be useful for decision-making (Aureli et al., 2019). This type of reporting is final to deal with by emphasizing its difference from traditional financial statements, and it has been referred to in several ways: social and environmental disclosure, SED (Korca et al., 2021), non-financial information, NFI (Gray et al., 1996), non-financial disclosure, NFD (Venturelli et al., 2017), CSR reporting (Tschopp & Huefner, 2015), corporate social reporting (Guthrie & Parker, 1989), and environmental reporting. Beyond the different designations used, the common denominator of this reporting lies in the focus on the environmental and social aspects of business activity, while the reference to governance becomes relevant only after a report from some financial institutions with a focus on ESG aspects. This type of reporting, although only optional in many regulatory contexts, has spread rapidly and gained attention from standard setters, practitioners, institutions, academics, and government entities (Manes-Rossi et al., 2018), in the wake of a consensus as a relevant factor in the success and survival of businesses. However, the absence of international and often national laws of reference, and the proliferation of guidelines, reporting standards, conceptual frameworks, and other sources, have prompted many authors to point to the need for a rationalization of the subject (Jeanjean et al., 2015). Other authors have focused on the relationship between organizational and managerial sustainability choices and non-financial reporting (Comyns et al., 2013). Initially, non-financial reporting appeared to be an isolated phenomenon found in a few Anglo-Saxon nations (the United States of America, the United Kingdom, New Zealand, and Australia) and focused mainly on human resource issues and a few environmental aspects (Manes-Rossi et al., 2018), except for mining, oil and steel companies that felt the relevance of the environmental issue from the beginning

(Hackston & Milne, 1996). Qualitative aspects outweighed quantitative aspects with some tendency to remark on positive news (Deegan & Gordon, 1996).

In recent years, two circumstances have influenced the spread of non-financial reporting: regulatory changes that have made this form of reporting mandatory for certain subjects and the interest officially expressed by various institutions such as the United Nations Global Compact (Podrecca et al., 2022), the GRI (Moggi, 2023), the IIRC (Marrone & Oliva, 2020), the Sustainability Accounting Standards Board, SASB (Hales, 2021) and the Task Force on Climate-related Financial Disclosures, TFCFD (Bingler et al., 2022), and regulators such as the European Commission (Contrafatto et al., 2020).

Mandatory non-financial disclosure (Jackson et al., 2020) has enabled the development of many studies related to mandatory or optional disclosure (Cooper & Owen, 2007) although there are previous studies on the interactions between voluntary and mandatory disclosure (Einhorn et al., 2005). Some studies have found an ability on the part of voluntary disclosure to provide additional information (Cohen et al., 2011), even as mandatory disclosure is not the first timely source of information. Many authors also emphasize the ability of voluntary disclosure to reduce information asymmetries by providing benefits to both management and investors (Francis et al., 2005).

According to Gray et al. (1995), sustainability and environmental reporting have developed from three theories: decision usefulness theory, economic theory, and social and political theory. Nevertheless, current currents of research on non-financial reporting are based on two main theories: the corporate voluntary and sustainable disclosure theory (Kılıç & Kuzey, 2019) and the legitimacy and stakeholder theories (Guthrie & Parker, 1989). The main assumption of the first theory is that companies with positive environmental achievements are inclined to provide additional information to encourage investor choices. This incremental information also serves to mitigate the risk of underestimation of this information by investors (Dye, 1985). Stakeholder theory and legitimacy theory have their origins in economic policy theories (Deegan, 2009). According to legitimation theory, organizations act within an environment characterized by norms and boundaries to gain legitimacy from society. Underlying this need for legitimacy is the notion of the social contract, whereby companies provide information about their social performance to gain social approval and legitimacy (Guthrie & Parker, 1989). Thus, non-financial disclosure is a means of influencing the perception of one's business, acting in the role of a good corporate citizen, and legitimizing one's actions to all stakeholders (Joshi & Gao, 2009).

Stakeholder theory was developed by Freeman (1984) as a strategic approach that organizations must have toward stakeholders to develop better performance. According to this theory, the pre-eminence of a stakeholder is a direct consequence of power over society, legitimacy, and urgency. People, groups, neighborhoods, organizations, and institutions are seen as the main current or even potential stakeholders. Society and the environment can also be seen as such. In this context, corporate

disclosure fosters relationships with stakeholders and provides information to demonstrate that corporate actions are consistent with stakeholder expectations and demands (Cotter & Najah, 2012).

3. RESEARCH METHODOLOGY

In our research, we conducted a systematic review of contributions submitted under the joint research project between ISAR and UNCTAD. Systematic review means a collection of studies or contributions about a specific topic and is one of the main techniques in qualitative studies. Here, we considered all kinds of contributions submitted in connection with the mentioned project: interviews, presentations, web pages, essays, and articles. In recent years, qualitative investigations such as systematic reviews have been joined by meta-analyses, i.e., statistical techniques suitable for combining results from numerous studies. At present, the available data do not allow for meta-analysis. Certainly, a meta-analysis of the results of the project analyzed here may be one of the possible developments of the study.

The potential bias in the results of the empirical analysis stems from the fact that all applicants who have tested reporting according to GCIs are companies that are highly motivated to do so (in fact, an awards ceremony is even planned for companies that try their hand at testing).

Thus, it is very likely that, in the case of widespread adoption of GCIs with a view to compliance resulting from being subject to legislative obligation (so-called legal enforcement, a theme that is taken up as a limitation in the conclusions), the results of the analyses would perhaps be more negative regarding the difficulty of applying the indicators and the cost-benefit ratio of the information.

ISAR is the Intergovernmental Working Group of Experts on International Standards of Accounting and Reporting, which is the UN body for concerns about corporate governance and reporting issues.

ISAR operates through the UNCTAD which provides administrative and substantive insights to ISAR's work. Thus, ISAR-UNCTAD plays a collaborative role with member states to implement reporting principles, standards, and best practices to improve the quality of reporting and facilitate financial stability, domestic and international investment, and social and economic progress.

Major activities include the development of documents and technical instructions on issues related to financial and non-financial reporting. Following the adoption of the 2030 Agenda, activity has focused on the implementation of the SDGs in corporate reporting.

The UNCTAD Intergovernmental Working Group of Experts has stressed the significance of reporting in tracking the progress of the private sector in reaching the goals of the 2030 Agenda for Sustainable Development, and how it can be further improved by enhancing the quality, consistency, comparability, and utility of sustainability reports.

Enterprise reporting holds a crucial position in the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs).

Reporting has the potential to strengthen SDG monitoring mechanisms by offering governments, businesses, society, and other stakeholders the tools

to evaluate the economic, environmental, social, and governance effects of companies on sustainable development. In turn, the SDGs supply a structure for streamlining enterprise sustainability reporting, ensuring its relevance and usefulness to all involved parties.

As the UN's central hub for accounting and reporting issues, ISAR-UNCTAD plays a leading role in leveraging the synergies between the SDGs and enterprise reporting.

ISAR has proposed a collection of core indicators across economic, environmental, social, and governance domains for further deliberation. These indicators serve as a foundational framework for merging financial and sustainability data at the corporate level, and for aligning corporate reporting with the monitoring mechanism of the SDGs and its metadata guidance on sustainability reporting.

UNCTAD's efforts concentrate on choosing a select set of core quantitative indicators that are universal and comparable. These foundational metrics serve as the basis for reporting and utilize existing guidelines to promote improved comparability of sustainability reporting across companies, sectors, and regions. The aim is to reach a consensus on the proposed core indicators, thus promoting increased comparability of sustainability reports and consistency with financial reporting frameworks, through the discussions about these issues in the annual session of ISAR in Geneva.

4. FINDINGS

In our analysis, we considered the contributions presented at the annual conferences from 2017 to 2022 to comprehend if the selected core indicators, in the view of the panelists that presented the results of their voluntary adoption were easy to

track and capable to serve as an effective reporting system for the assessment of the SDGs achievement.

The ISAR-UNCTAD 34-35th sessions were dedicated to the presentation of the core indicators and the guidance for the related enterprise reporting, named "Guidance on Core Indicators for Entity Reporting on Contribution Towards Implementation of the Sustainable Development Goals".

According to ISAR-UNCTAD, core indicators for enterprise reporting on SDGs had to be informed of the following principles and concepts:

- Be relevant to at least one SDG monitoring.
- Be based on existing key initiatives, reporting frameworks, or found in corporate reports.
- Be universal (applicable to all reporting enterprises).
- Enable comparability across industries.
- Address issues within a company's control and for which it gathers data (incremental approach).
- Encourage the convergence of financial and non-financial reporting principles and data.
- Allow for consistent measurement.
- Be appropriate for both consolidated reporting and legal entity reporting.

Common aspects for companies in enterprise sustainability reporting include:

- Economic impact: Gross domestic product (GDP), taxes.
- Rational use of natural resources: Water, land, energy, materials consumption, waste generation, and impact on climate change (as emphasized in Task Force on Climate-related Financial Disclosures [TCFD], 2017).
- Rational use of human capital: Worker safety, wages, gender considerations, training, and human rights.

- Governance principles: Resilience to corruption.

This led to the selection of the core indicators shown in Table 1 below for which UNCTAD then developed the related application guidance:

Table 1. Selection of the core indicators (Part 1)

Area		Core indicators
A. Economic area		
A.1	<i>Revenue and/or (net) value added</i>	
	A.1.1	Revenue
	A.1.2	Value added
	A.1.3	Net value added
A.2	<i>Payments to government</i>	
	A.2.1.	Taxes and other payments to the government
A.3	<i>New investment/expenditures</i>	
	A.3.1	Green investment/products
	A.3.2	Community investments
	A.3.3	Total expenditures in research and development
A.4	<i>Total local supplier/purchasing programs</i>	
	A.4.1	Percentage of local procurement
B. Environmental area		
B.1	<i>Sustainable use of water</i>	
	B.1.1	Water recycling
	B.1.2	Water use efficiency
	B.1.3	Water stress
B.2	<i>Waste management</i>	
	B.2.1	Reduction of waste generation
	B.2.2	Waste reused, remanufactured, and recycled
	B.2.3	Hazardous waste
B.3	<i>Greenhouse gas emissions</i>	
	B.3.1.	Greenhouse gas emissions (scope 1)
	B.3.2.	Greenhouse gas emissions (scope 2)
B.4	<i>Ozone-depleting substances and chemicals</i>	
	B.4.1	Ozone-depleting substances and chemicals
B.5	<i>Energy consumption</i>	
	B.5.1	Renewable energy
	B.5.2	Energy efficiency

Table 1. Selection of the core indicators (Part 2)

Area		Core indicators
C. Social area		
C.1	<i>Gender equality</i>	
	C.1.1	Proportion of women in managerial positions
C.2	<i>Human capital</i>	
	C.2.1	Average hours of training per year per employee broken down by employee category
	C.2.2	Expenditure on employee training per year per employee broken down by employee category
	C.2.3	Employee wages and benefits with breakdown by employment type and gender
C.3	<i>Employee health and safety</i>	
	C.3.1	Expenditures on employee health and safety
	C.3.2	Frequency rates/incident rates of occupational injuries
C.4	<i>Collective agreements</i>	
	C.4.1	Percentage of employees covered by collective agreements
D. Institutional area		
D.1	<i>Corporate governance disclosures</i>	
	D.1.1	Number of board meetings and attendance rate
	D.1.2	Number/percentage of women board members
	D.1.3	Board members by age range
	D.1.4	Number of meetings of audit committee and attendance rate
	D.1.5	Compensation – total compensation and compensation per board member and executive
D.2	<i>Anti-corruption practices</i>	
	D.2.1	Amount of fines paid or payable due to settlements
	D.2.2	Average number of hours of training on anti-corruption issues per year per employee

The choice of core indicators is grounded in the shared requirements of the primary users of SDG reporting, including investors, government, and civil society, and takes its source from existing frameworks and contributions of standard setters and other international institutions in enterprise sustainability reporting. Additionally, the selected core indicators represent a framework that fosters consensus-building within this domain, based on the integration of the SDGs into business models and strategies, mirroring the context of financial reports where different users have common needs.

A crucial aspect to consider in the implementation of GCI is the application of the materiality principle. Materiality has gained a new dimension in the context of SDG reporting, because, when it comes to sustainability matters, everything is significant to someone, which raises the question about the selection of the right perspective to be used to determine materiality in enterprise sustainability reporting.

A large part of the following ISAR-UNCTAD sessions was dedicated to the presentation of selected case studies to evaluate the application of the guidance in terms of their relevance as common indicators, underlying data availability, and the possibility of consistent measurement.

The case studies were conducted in different geographical areas, countries with varying levels of economic development, a broad range of industries, and companies of varied sizes.

Companies participating in the case studies represented the following industries from several countries (both developed and developing ones):

- Agriculture;
- Academia;
- Apparel retailers;
- Chemical manufacturing;
- Commodity paper products;
- Cosmetics;
- Cutting tools;
- Education;
- Energy;

- Engineering;
- Health care;
- Hospitality;
- Garments;
- Manufacturing;
- Mining;
- Oil and gas;
- Paints and coating solutions;
- Pulp and paper;
- Retail;
- Stone-working;
- Telecommunications;
- Textiles.

An overview of the implementation of the guidance in several companies was conducted in Egypt.

The case studies reflected various levels of experience and expertise in sustainability and SDG reporting; therefore, the issues discussed below would not be fully applicable to all case studies.

The following discussions aim to help identify the principal areas for capacity-building in SDG reporting and they were finalized to provide further evidence towards building consensus on the approach suggested in the guidance regarding baseline indicators for reporting on the SDGs at the company level and for data collection at the national level.

A review of the case studies provided evidence for the following observations:

- Most companies were able to provide data on most of the core indicators.
- Environmental and social indicators were more difficult to report on than economic and institutional indicators.
- Institutional coordination at the national level continues to be a challenge.
- Regulations facilitate consistency but also affect diversity.
- Technical capacity needs to be strengthened.
- Measurement inconsistencies need to be addressed.

The case studies revealed that in general the core indicators were perceived as applicable to

all entities, irrespective of size, industry, or country, and demonstrated an elevated level of relevance for the indicators in the guidance.

These studies revealed that sustainability/SDG reporting is often a new area for many companies, with a range of challenges encountered. Some core indicators were simple to comprehend and, as a result, had a high rate of accurate information provision. However, some indicators were not reported despite the availability of information, while others were reported without available information.

Companies already utilizing existing sustainability reporting frameworks encountered fewer difficulties in presenting the core indicators, although the sources of information used to collect the underlying accounting data were not always evident.

Some companies noted that an enhancement in their data collection capacity for UNCTAD core indicators during the study period came with a better understanding of the approach suggested in the guidance. This finding supports the idea that the necessary information for reporting on core indicators can be found in existing accounting records, even if not readily accessible.

Nevertheless, some of the indicators were not easy to disclose due to additional calculations in respect of data collected according to statistical and/or accounting and financial reporting data, or because the information required was not included in official and published information bases for disclosure in the entities' reporting or internal management information systems. This was particularly apparent for environmental and social indicators that were more challenging to report than economic and institutional indicators.

For example, two indicators — B.1.1. Water recycling and reuse and C.2.2. Expenditure on employee training per year per employee — were frequently identified as impossible to report. Specific challenges mentioned included data collection for environmental indicators, such as measuring waste, water recycling, ozone-depleting substances, chemicals, and renewable energy. A lack of knowledge about information sources for calculating greenhouse gas emissions or water stress was also highlighted.

However, there was no systematic consistency among companies regarding difficulties in reporting other core indicators. In certain cases, the following indicators were difficult or impossible to report, while most other cases provided them: B.1.3. Water stress; B.3.2. Greenhouse gas emissions (scope 2); B.5.1. Renewable energy; C.3.1. Expenditures on employee health and safety as a proportion of revenue; C.4.1. Percentage of employees covered by collective agreements.

This inconsistency may indicate that the availability of accounting data for UNCTAD core indicators is a technical issue that could be resolved by modifying the accounting system or implementing appropriate education and training, particularly regarding the importance and benefits of disclosures related to the SDGs.

Other reported difficulties in data collection for core indicators included:

- When a company has numerous suppliers, additional efforts are needed to establish supply chain transparency for calculating local procurement percentages.

- Companies may only disclose total employee costs, making further breakdown impossible.

- Tracking the percentage of employees who have completed business ethics training may be a better measure than the number of hours spent on anti-corruption training.

Several case studies highlighted issues related to the lack of regulation mandating ESG or SDG reporting, insufficient coordination among authorities responsible for such reporting, and multiple entities overseeing diverse types of companies.

The case studies also noted that indicators traditionally required by regulations had better disclosure rates and quality. However, capacity-building efforts are needed to collect accounting data and report on most suggested core indicators.

In various case studies, the concept of materiality was emphasized and discussed during the consultative group meeting, as some companies cited a lack of materiality as the reason for not reporting on specific indicators, particularly in environmental and institutional areas.

According to ISAR-UNCTAD, the adoption of the goals involved multi-stakeholder consultations and agreed that certain aspects of economic, environmental, social, and institutional activities were material to the UN Member States.

For instance, the International Labour Organization promotes collective agreements in social indicators, and anti-corruption is a central theme in the principles of the United Nations Global Compact.

The focus on environmental indicators aligns with the 2017 report of the Task Force on Climate-related Financial Disclosures (TCFD, 2017), which states that climate-related risks are non-diversifiable risks impacting all industries. In the context of the goals and related reporting, materiality takes on a new meaning and dimension, as it is not specific to an entity or industry but universal.

The core indicators covering the four areas were initially identified through a multi-stakeholder consultative process and intergovernmental consensus-building, making them material for society as a whole and the planet.

To comprehend the private sector's contribution to achieving the goals, all activities with even a small impact on the environment and society are considered material, and companies must adopt a new concept of materiality — universal materiality.

This concept is also in line with the European Commission's double-materiality perspective, which comprises financial materiality, focusing on a company's development, performance, and position with investors as the primary audience, and environmental and social materiality, which considers the impact of a company's activities with consumers, civil society, employees, and an increasing number of investors as the primary audience.

In some instances, confidentiality was another reason for non-disclosure; even though data was available, and companies provided certain information to environmental and social authorities, they did not disclose such information in their reports.

Other identified challenges included the need for better coordination and cooperation at the national level among key public and private sector stakeholders, more efforts to build national institutional and regulatory mechanisms for SDG reporting, and capacity-building at all levels.

In conclusion, the case studies revealed that most core indicators could be reported, but consistent measurement and comparability of reported indicators remain challenges.

The case studies demonstrated that providing further technical guidance improved data availability for core indicators at the company level. Consequently, building technical capacity and offering guidance could be essential for the further implementation of core indicators for baseline SDG reporting by companies. On the other hand, it must be said that the more the companies got used to the system of core indicators the easier they found to prepare the Sustainability reporting based on GCI.

Capacity-building at all levels is essential for addressing institutional and technical challenges in adapting national corporate reporting environments to meet the requirements of the 2030 Agenda and effectively evaluating the private sector's contribution to achieving the goals.

Aligning sustainability reporting by companies with the goals monitoring framework and its indicators is also a significant issue at the institutional level. This involves addressing the lack of relevant supporting institutions, their

coordination and cooperation, technical expertise, and adequate monitoring and enforcement mechanisms.

Tools are needed for identifying gaps through international benchmarking, developing action plans for accounting reforms, and measuring progress in priority areas. Issues related to capacity-building in Goals-related reporting by companies should be considered within the broader accounting and reporting infrastructure, as such reporting is an integral part of the national reporting infrastructure, and high-quality reporting cannot be achieved without the other key components of an enterprise reporting system.

Another major challenge lies in involving and coordinating institutions responsible for accounting regulations with those responsible for goals-related monitoring and implementation. Further coordination is also necessary with agencies responsible for environmental, social, and governance-related regulations and developments, as well as statistics offices.

The overall level of disclosure of core indicators by the companies involved in the case studies is reported in Table 2 below.

Table 2. The level of disclosure of core indicators

<i>Core indicators</i>	<i>Share of companies reporting (percentage)</i>
Revenue	100%
Value Added	68%
Net value added	73%
Taxes and other payments to the government	95%
Green investment/products	59%
Community investments	95%
Total expenditures in research and development	91%
Percentage of local procurement	77%
Water recycling	45%
Water use efficiency	77%
Water stress	77%
Reduction of waste generation	59%
Waste reused, remanufactured, and recycled	59%
Hazardous waste	68%
Greenhouse gas emissions (scope 1)	82%
Greenhouse gas emissions (scope 2)	77%
Ozone-depleting substances and chemicals	23%
Renewable energy	59%
Energy efficiency	86%
Proportion of women in managerial positions	91%
Average hours of training per year per employee broken down by employee category	68%
Expenditure on employee training per year per employee broken down by employee category	59%
Employee wages and benefits with breakdown by employment type and gender	77%
Expenditures on employee health and safety	55%
Frequency rates/incident rates of occupational injuries	95%
Percentage of employees covered by collective agreements	64%
Number of board meetings and attendance rate	77%
Number/percentage of women board members	95%
Board members by age range	86%
Number of meetings of audit committee and attendance rate	95%
Compensation — total compensation and compensation per board member and executive	55%
Amount of fines paid or payable due to settlements	73%
Average number of hours of training on anti-corruption issues per year per employee	55%

The guidance on core indicators does not intend to establish new reporting standards. Instead, its purpose is to select common sustainability and SDG indicators based on existing reporting practices of entities and leading reporting frameworks, such as the Global Compact, GRI, SASB, International Sustainability Standards Board (ISSB), IIRC, European Financial Reporting Advisory Group (EFRAG), and others.

The guidance also highlights a business case for entities to monitor and reduce costs and enhance efficiency in utilizing natural resources. While acknowledging the significance of qualitative, narrative disclosures and understanding these indicators in specific contexts, the guidance focuses on quantitatively comparable indicators that align with the macro-level indicators under the goals.

Nonetheless, the guidance does not discourage companies from providing more information,

whether qualitative or quantitative. Individual businesses operating in different contexts may choose to disclose additional information reflecting their specific goals-related practices and addressing the needs of their users, particularly investors and other capital providers.

Fresh players have embraced the challenges related to sustainability reporting, from a jurisdictional perspective (EU) and a best practice point of view (ISSB).

Developments in the EU often influence the region, impacting global processes and affecting other jurisdictions. The EU has been a leader in transitioning from a voluntary to a mandatory approach to sustainability reporting for large companies since the introduction of the non-financial reporting directive in 2014.

This approach has evolved into a more comprehensive reporting ecosystem, and on April 21, 2021, the European Commission adopted a legislative proposal for a corporate sustainability reporting directive, which was approved on December 22, 2022. The goal is to have comparable sustainability-related data to support public policies related to sustainability and sustainable finance objectives.

The corporate sustainability reporting directive aims to establish rules to ensure that companies report sustainability information consistently and comparably, considering aspects such as extensive coverage of environmental, social, and governance-related topics; information quality; the concept of double materiality; integration of sustainability information into management reports; external third-party assurance; and digital format.

The new reporting requirements would apply to all large and listed companies, including listed small and medium-sized enterprises. Approximately 50,000 companies would be required to report, compared to the current 11,000. Proportionate standards for small and medium-sized enterprises will be developed.

The European Financial Reporting Advisory Group is responsible for developing draft standards under the directive. Before the proposal's adoption, the group had already carried out preparatory work on key governance and standard-setting matters related to sustainability reporting. In April 2022, the group released the first draft of European sustainability reporting standards based on the proposal for public comments, which refer to 12 environmental, social, and governance-related issues.

A second set of standards that will identify complementary sustainability-related and sector-specific information to be disclosed, along with standards for small and medium-sized enterprises, is anticipated by mid-2023. Before adopting the standards, the European Commission will consult with the member states expert group on sustainable finance, the European Securities and Markets Authority, and various other European agencies and authorities.

On the best practice side, in November 2021, the International Financial Reporting Standards (IFRS) Foundation Trustees announced three significant developments: the formation of the ISSB to establish a global baseline of sustainability disclosure standards for investors; a commitment by

leading investor-focused sustainability disclosure organizations to consolidate into the new board, including the completion of the consolidation of the Climate Disclosure Standards Board and the Value Reporting Foundation; and the publication of prototype climate-related and general disclosure requirements by the Technical Readiness Working Group, which had been preparing for the ISSB.

The ISSB is collaborating with the International Accounting Standards Board (IASB) to ensure integration and compatibility between the former's standards and the international financial reporting standards. The ISSB aims to build on existing frameworks and standards, while other participating organizations will contribute content to support the development of standards by the board.

On March 31, 2022, the ISSB published exposure drafts on general requirements for disclosing sustainability-related financial information and climate-related disclosures.

The first exposure draft sets general requirements for sustainability reporting, stating that the objective of sustainability-related financial disclosures is to provide information on material sustainability-related risks and opportunities that are useful to the primary users of financial reporting in deciding whether to allocate resources to the reporting entity.

The second exposure draft, based on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD, 2017), requires companies to report information on governance processes for monitoring and managing climate-related issues, the potential impact of climate-related risks on their business model, strategy, and cash flow, plans and targets for climate-related issues, and the use of climate-related scenario analysis to assess risks and opportunities.

Companies are also required to disclose their scope 1, 2, and 3 greenhouse gas emissions in absolute terms and per unit of economic or physical output, following the greenhouse gas protocol corporate accounting and reporting standard. Additionally, industry-specific climate-related disclosure requirements are included, aligning with the SASB approach.

Materiality is considered in the context of the information that general-purpose financial reporting users need to evaluate enterprise value. The reporting entity's boundary for financial reporting and sustainability-related financial disclosures remains the same, and the required information for the latter would be disclosed in general-purpose financial reporting.

The ISSB has formed a working group of jurisdictional representatives to ensure compatibility between the exposure drafts and ongoing jurisdictional initiatives in sustainability reporting.

Similar best practice attempts toward the capacity building of a reliable and beneficial sustainability reporting framework (SRF) can be mentioned both at the world or regional level (the revision of the GRI framework for it to interoperate with other existing jurisdictional frameworks, the beta version of a disclosure framework issued by the Task Force on Nature-related Financial Disclosures, the new requirements set by the Securities and Exchange Commission (SEC) of the United States of America in terms of public

companies disclosures to the Federal Government and shareholders about their impacts on the climate, Recent advancements in sustainability reporting indicate substantial global shifts occurring in sustainability standard-setting and reporting infrastructure.

Over the next 12–18 months, there is an anticipated strong push toward harmonizing reporting standards for corporate sustainability disclosures.

The objective is to achieve greater consistency among the numerous pre-existing reporting frameworks, and it is evident that coordination between worldwide regulators, standard setters, and private initiatives is necessary to accomplish this.

5. CONCLUSION

This study delineates pivotal elements that guide the evolution of sustainability reporting, namely inter-agency collaboration, adaptability, the heightened significance of materiality, universal standards, integration of financial and sustainability reporting, support mechanisms for small and medium enterprises (SMEs), continuous improvement, and embracement of innovative concepts such as universal materiality.

The lessons learned from the recent developments in sustainability reporting are summarized below.

Coordination between global regulators, standard setters, and private initiatives is essential for achieving consistency and harmonization in reporting standards and, as sustainability reporting evolves, organizations need to be adaptable and responsive to the changing landscape and new reporting requirements. Businesses must consider both financial and non-financial materiality in their sustainability reporting, as it helps meet the information needs of various stakeholders. Moreover, developing global baseline sustainability disclosure standards can improve the quality and comparability of sustainability reports and facilitate informed decision-making by investors and other stakeholders.

Integrating sustainability-related financial disclosures into general-purpose financial reporting can provide a more comprehensive view of an organization's performance and risk profile, also for small and medium enterprises. For them, proportionate standards should be developed for SMEs to ensure they can effectively participate in sustainability reporting without being overburdened by complex requirements.

As sustainability reporting standards and frameworks evolve, organizations should continuously improve their reporting practices to align with best practices and meet the expectations of investors and other stakeholders. Companies need to adopt new concepts, such as universal materiality, which considers the impact of their activities on society and the environment, in addition to their financial performance.

In this context, the role of ISAR-UNCTAD core indicators can be beneficial to the creation of a harmonized and modular sustainability reporting framework (SRF).

The guidance on core indicators and the contributions expressed by all the participants

of the ISAR-UNCTAD Sessions demonstrate the need for a universal framework for sustainability reporting, to facilitate the efficient allocation of capital, where the role of ISSB as the global standard setter for sustainability reporting is gaining more relevance.

Nevertheless, it is also clear that a proportionate application of standards, together with a substantial creation of actual implementation guidance and realistic implementation examples is the way forward to create an effectively universally adopted SRF.

The action plan for a harmonized and effective SRF can be broken down into three main components: regulatory, institutional, and human capacity.

Regulatory starts with listed companies and the financial sector, as they have considerable influence on the economy and can drive change, with the adoption of a transitional approach, allowing companies to gradually adapt and adjust to the new framework. A comprehensive and flexible framework, that accommodates different company sizes and industries, shall be developed using a building blocks approach to provide a SRF by the ISSB to ensure global compatibility and consistency. Rules shall promote responsible investment by requiring companies to disclose impacts related to the goals, fostering transparency and accountability, and also for public sector entities.

The institutional component shall identify or establish a national entity responsible for sustainability reporting and integration with financial standard setters and designate a body to monitor compliance and enforce sustainability reporting requirements. Coordination among key entities, including regulators, standard setters, accounting firms, private sector associations, professional accountancy organizations, and universities shall be promoted.

Human capacity ensures the availability of capacity-building for professionals and students by providing resources and training opportunities related to sustainability reporting. Partnership with key institutions, such as professional accountancy organizations and universities, shall conduct training workshops that enhance the knowledge and skills of professionals in the field and build capacity in the public sector, enabling government officials and employees to better understand and implement sustainability reporting requirements. Technical support to small and medium-sized enterprises shall be provided, helping them navigate the complexities of sustainability reporting and compliance. Universities shall ensure curricula and continuous professional development programs are up to date, reflecting the latest developments in sustainability reporting standards and best practices.

These actions accentuate the role of ISAR-UNCTAD core indicators in the creation of a modular, harmonized SRF, and UNCTAD-ISAR shall have a more than moral suasion role in building this SRF.

The next ISAR session(s) agenda(s) should focus on the contribution of ISAR to build a pathway for the adoption of a harmonized SRF defined and proportioned in terms of sensitivity, among others, to the level of public accountability, to economic size, and the geographical area of operations (to take

into consideration, the instances of gradual application of the SRF in developing countries).

ISAR could do this in its next sessions using the experience and lessons learned with the SMEGA 1, 2, and 3 projects for a harmonized financial accounting framework.

In this view, UNCTAD GCI should become the first stone of the system and Regional Initiatives should focus on the regional SRF to be adopted to ensure comparability of SRF across the entities operating in the region. IFRS sustainability reporting standards, once completed, should represent the roof of the system and should be drafted to guarantee complete interoperability with both GCI and the regional jurisdictional or best practice SRFs.

The conclusions, drawn from ISAR-UNCTAD sessions, reiterate the exigency for a globally applicable framework for sustainability reporting. Within this purview, the role of the ISSB as a global standard setter for sustainability reporting gains prominence.

However, it is also evident that the development of an effectively universally adopted SRF demands a balanced application of standards. This balance is likely to be achieved by robust implementation guidance, practical examples, and proportionate standards.

The role of UNTAD-ISAR in formulating an appropriate SRF, along with the alignment of regional initiatives with global standards like IFRS sustainability reporting standards, warrants further examination.

This research underscores the value of ISAR-UNCTAD's core indicators and the GCI in shaping sustainability reporting and in constructing a harmonized SRF.

However, it must be acknowledged that a considerable limitation in the implementation of these indicators lies in the absence of legal enforcement behind UNCTAD's GCI.

The lack of legal enforcement potentially leads to inconsistent application and adherence to these core indicators. This inconsistency can, in turn, impact the quality, comparability, and transparency of sustainability reports, affecting the information available to stakeholders and potentially limiting the effective allocation of capital.

This limitation might also impede the integration of sustainability-related financial disclosures into general-purpose financial reporting, a goal that is considered integral to providing a comprehensive view of an organization's performance and risk profile.

In light of these findings, future research must consider the implications of this lack of legal enforcement and explore potential pathways to enhance the authority and reach of UNCTAD's GCI.

Potential strategies might include collaboration with global regulatory bodies, the development of globally recognized sustainability reporting standards, and exploring ways to motivate voluntary adherence to these indicators by selected categories of preparers.

While the core indicators offer a significant resource for guiding sustainability reporting, the absence of legal enforcement limits their effectiveness and poses challenges to achieving a harmonized, globally recognized SRF. This limitation should be given due consideration in the ongoing discussions and developments surrounding sustainability reporting.

In conclusion, this research serves as a stepping stone toward a more comprehensive exploration of the development and implementation of a robust, adaptable SRF.

It invites future academic investigations to delve into the complexities of establishing such a framework, thereby contributing to the advancement of sustainable practices globally.

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