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REFLECTING THE VALUE CHAIN IN INTEGRATED REPORTING: A TOOL FOR SUSTAINABILITY ASSESSMENT

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Abstract. At the current stage of economic development, business management and stakeholders—primarily providers of financial capital—require comprehensive information about the value created by enterprises. Such value can be effectively represented through integrated reporting, a model grounded in integrated thinking that depicts the entire value chain, from creation to preservation and erosion. The study aims to identify information related to the representation of the entire value chain process—creation, preservation, and erosion of value. It examines how enterprises utilise various types of capital (financial, manufactured, human, intellectual, natural, social, and reputational) and interact with the environment; how financial and non-financial information, including environmental, social, and governance (ESG) factors, is integrated; and how the interconnection between strategy, governance, operations, and future outlook contributes to the creation of sustainable value. The research methodology is grounded in the International Integrated Reporting Council (IIRC) Framework, the European Union's Corporate Sustainability Reporting Directive (CSRD), the European Sustainability Reporting Standards (ESRS), materials from leading international auditing and consulting firms, and scholarly literature. General scientific methods of inquiry were applied, including analysis, synthesis, generalisation, abstraction, and a systems-based approach. The study analyses the conceptual foundations of integrated reporting, including the value-creation model as defined by the <IR> Framework, its objectives, and core elements. It further examines the essence of the value chain as defined by the ESRS, highlighting the processes of value creation, preservation, and erosion; the role of value chain workers; the concepts of material impacts, risks, and opportunities; and the disclosure requirements related to value chains.

Keywords: Integrated reporting; Upstream value chain; Downstream value chain; Double materiality; European Sustainability Reporting Standards (ESRS); Sustainability disclosure

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JEL Classifications: Q56, Q58

1. Introduction

Providers of financial capital are interested not only in the value an organisation creates for itself but also in the value it generates for other stakeholders. Such information is prepared in accordance with the conceptual foundations of *Integrated Reporting* (<IR>) (IFRS, 2021) and the disclosure requirements set out in the *European Sustainability Reporting Standards* (ESRS), which emphasise the integration of Environmental, Social, and Governance (ESG) factors.

Integrated Reporting

The purpose of integrated reporting is to improve the quality of information available to providers of financial capital, thereby supporting effective decision-making to create sustainable value in the short, medium, and long term. Accordingly, the main task of integrated reporting is to integrate financial and non-financial information to provide a holistic view of how an organisation creates, preserves, or erodes value over time. Value is neither created, preserved, nor lost solely within the organisation itself. The process of value creation is influenced by external factors and shaped through relationships with stakeholders; it also depends on the availability and use of diverse resources. Therefore, integrated reporting requires aligning ESG factors, corporate strategy, resources, and the business model in a single report. It must also demonstrate the interconnections among various aspects of organisational activity—strategy, resources, risks, and outcomes—and disclose how value is created, preserved, or eroded for both the enterprise itself and its stakeholders (Figure 1). Ultimately, the focus is placed on long-term sustainability and on providing investors and other stakeholders (PWC, 2019) with high-quality, decision-useful information (Songini et al., 2023; de Oliveira et al., 2025).

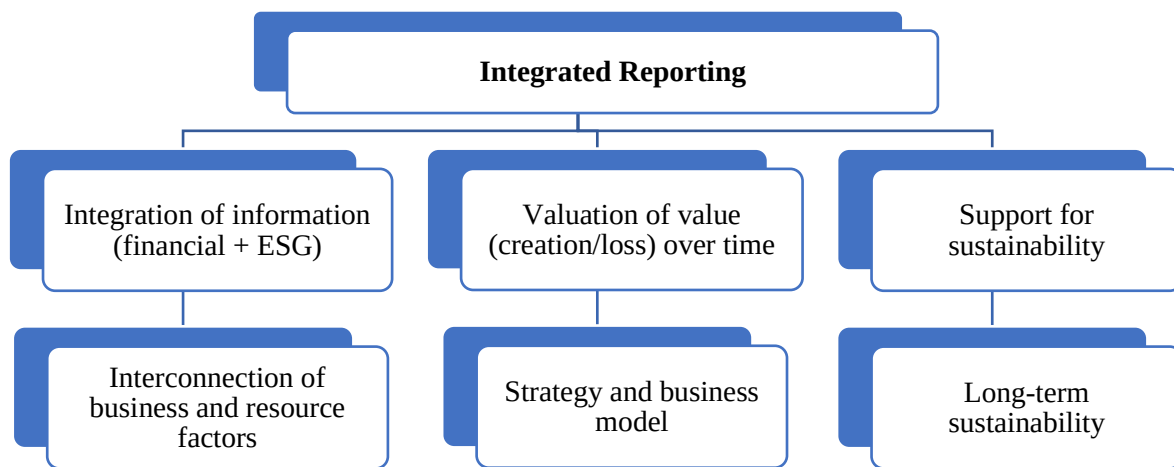


Figure 1. Key Elements of Integrated Reporting
Source: European Sustainability Reporting Standards (ESRS)

The European Sustainability Reporting Standards (ESRS) define the information that enterprises must disclose regarding their material impacts, risks, and opportunities in relation to environmental, social, and governance (ESG) matters (ESRS 1, §2). These standards introduce new requirements that obligate EU companies to report on ESG aspects of their activities. They have been developed by the *European Financial Reporting Advisory Group (EFRAG)* (European Union, 2022) and are implemented within the Framework of the *Corporate Sustainability Reporting Directive (CSRD)* (European Parliament, 2022).

The primary objective of the ESRS is to ensure that enterprises transparently disclose how they:

- affect the environment and society;
- are exposed to sustainability-related risks (e.g., climate risks);
- create sustainable value in the long term.

The value model under the CSRD requires the presentation of non-financial information. In line with the directive, the ESRS specifies the types of non-financial information (environmental, social, and governance) that organisations must disclose.

The ESRS framework is structured as follows:

1. General Standards (ESRS 1–2) – Applicable to all organisations, covering general disclosure requirements.

2. Topical Standards:

- Environmental standards (ESRS E1–E5): Climate, pollution, water, ecosystems, and biodiversity.
- Social standards (ESRS S1–S4): Own workforce, value chain workers, affected communities, consumers, and end-users.
- Governance standard (ESRS G1): Business conduct.
- Sector-Specific Standards (Sector-Specific ESRS)

The sector-specific ESRS take into account the particular characteristics of individual industries, where risks, opportunities, and impacts may differ significantly. The purpose of these standards is to:

- ensure more relevant and accurate disclosure of information;
- reflect sector-specific risks, opportunities, and impacts.

At present, sector-specific ESRS are being developed for the following industries: energy and extractive industries, financial services, food production, construction and real estate, transport, and education (the latter primarily for public institutions). The development of sector-specific ESRS is intended to capture the unique features of different sectors in the context of sustainability reporting, with priority given to industries that have a significant impact on the environment and society—such as oil and gas, mining, transportation, and financial institutions. According to the European Sustainability Reporting Standard ESRS 1 *General Requirements*, the following structure of sustainability reporting is proposed (European Commission, 2023), see Table 1.

Table 1. Structure of European Sustainability Reporting Standards (ESRS 1)

Information	European Sustainability Reporting Standards (ESRS)
General information	ESRS 2 — General requirements for disclosure of information; Market position, strategy, business model, value chain
Environmental information	ESRS E1 — Climate change ESRS E2 — Pollution ESRS E3 — Water and marine resources ESRS E4 — Biodiversity and ecosystems ESRS E5 — Resource use and circular economy
Social information	ESRS S1 — Own workforce ESRS S2 — Workers in the value chain ESRS S3 — Affected communities ESRS S4 — Consumers and end-users
Governance information	ESRS G1 — Business conduct

2. Value Creation Model and Sustainability Reporting

The International Integrated Reporting Council (IIRC) introduced the Value Creation Model to achieve its objectives — reflecting the entire value chain by using all types of capital while protecting the interests of value chain participants. Specifically, it aims to provide more complete, transparent, and comprehensive information about the organisation's activities, strategy, management, outcomes, and prospects, taking into account not only financial but also non-financial aspects such as social and environmental impacts, corporate governance, social responsibility, and the use and preservation of capital (financial, manufactured, intellectual, human, social, and natural) (Piesiewicz & Kufel, 2025; Singhal & Goel, 2026). The creation, preservation, and erosion of value are universal processes that encompass economic activity as well as cultural, philosophical, and managerial spheres. Understanding this process is fundamental for analysing the sustainability of social systems, businesses, and society as a whole. The conceptual foundation of integrated reporting (the International <IR> Framework) includes the Value Creation Model. This model explains how an organisation creates, preserves, or erodes/loses value in the short, medium, and long term. The process of value creation, preservation, and erosion is a core concept in economics, philosophy, and management, reflecting the life cycle of economic, cultural, or moral values.

The stages of this process are as follows:

1. **Value creation in the economy occurs through the processes of production, exchange, and consumption.** Value creation is the transformation of resources (labour, inventory, technology) into goods or services with market value. Here, value is measured by price, profit, or contribution to GDP. Key factors at this stage include labour, capital, resources, knowledge, innovation, creativity, and the demands of society and individuals.
2. **Value preservation is the maintenance of the significance or market value of an object or event over time.** This involves supporting product and company competitiveness, reducing costs, protecting against depreciation, sustainably managing the brand and corporate culture, and responding to risks and changes. Examples include the modernisation of production, the maintenance of the customer base, and the preservation of brand reputation. Methods to achieve this include risk management, marketing, corporate governance, and ESG strategies.
3. **Value erosion.** This is the decline or total loss of significance or market value. It is accompanied by decreased efficiency, loss of trust, damage to brand reputation and customer base, investor outflows, crises, bankruptcy, and more. Causes include changing market conditions, strategic errors, and weak control.

Modern governance concepts state that value is created for stakeholders and includes innovation, growth in market capitalisation, sustainability, and reputation. Value preservation involves managing strategic risks, maintaining efficiency, and investing in personnel and infrastructure. Value erosion is accompanied by reduced profitability and loss of trust from customers and investors, often caused by ineffective management, market changes, and crises.

Importance of the Value Creation Model

According to the Integrated Reporting Framework (<IR> Framework), value creation, preservation, or erosion is a process that causes growth, reduction, or transformation of capital driven by the organisation's business activities and their outcomes (Maroun, Ecim & Cerbone, 2023; Ecim & Maroun, 2025). Value creation means effective and sustainable use of capital. Value preservation results from the stable and responsible management of all types of capital. Value erosion can happen, for example, due to environmental degradation, wars, and globalisation, which may lead to identity crises and moral disorientation. Therefore, this process is important for management, strategic planning, marketing effectiveness, and understanding societal development. The value model is not linear; it is a dynamic system where the results of one period affect the input resources of the next. This way, an organisation can create, preserve, or lose value for itself and its stakeholders. The business development concept requires entrepreneurs and managers to consider not only financial indicators but also social and environmental metrics. According to this concept, business is built on the "three pillars of sustainable development" — planet, people, and profit. It is used not only as a management tool but also as a financial accounting instrument. Over the last decades, such ideas have been actively developed within the frameworks of sustainable development and integrated reporting concepts (Sabauri, 2024; Díaz et al., 2024). The process of value creation is connected not only to production and market valuation but also to the assessment of the effectiveness of organisational governance and sustainability.

Key Elements of the Value Creation Model

Core Components of the Integrated Reporting Value Creation Model (Creation, Preservation, Erosion):

I. Inputs – The Six Capitals

According to the <IR> Framework, capital refers to the resources and relationships upon which an organisation relies and which it transforms through its business activities to create value. The main types of capital through which businesses generate value include:

- Financial Capital (cash, investments, revenues);
- Manufactured capital (buildings, equipment, infrastructure, technologies);
- Social and Relationship Capital (relationships with customers, partners, and society; reputation; trust);
- Human Capital (employee knowledge, competencies, skills, motivation);
- Natural Capital (energy, water, climate conditions);
- Intellectual capital (innovation, patents, brand, IT systems, organisational culture).

II. Business Model

According to the European Sustainability Reporting Standards (ESRS), the business model is defined as the enterprise system through which inputs are transformed into products and outcomes. It is designed to support the achievement of strategic objectives and create value in the short, medium, and long term (Glossary and acronyms, 2022).

The organisation describes how it uses its inputs to generate outcomes aligned with its strategy. This includes (EFRAG, 2022):

- business objectives;
- product and service development processes;
- risks and opportunities;
- governance mechanisms.

The objectives of the value creation model are to:

- Demonstrate business resilience and adaptability;
- Support strategic decision-making;
- Enhance transparency for investors and the wider public (Piesiewicz and Kufel, 2025; Singhal and Goel, 2026).

III. Results – Outputs

Outputs refer to the immediate products, services, and by-products resulting from the organisation's activities. These may include not only intended deliverables but also unintended consequences such as emissions, waste, and social impacts.

IV. Results – Outcomes (Impacts on Capitals)

Outcomes describe the broader effects of the organisation's operations on all six types of capital, both positive and negative. These may include, but are not limited to:

- Increase or depletion of natural resources;
- Enhancement of employee skills and competencies;
- Growth in social trust or corporate reputation;
- and other forms of value creation or erosion across capitals.

This information provides insights into how value is created, preserved, or diminished throughout the value chain — including sourcing, production, distribution, sales, and consumption.

3. The Concept of the Upstream and Downstream Value Chain

Definition of the Value Chain

According to the European Sustainability Reporting Standards (ESRS), the value chain encompasses (ESRS, 2022) the full range of activities, resources, and relationships related to the enterprise's business model and the operational context in which it operates. In other words, the value chain encompasses all processes, inputs, and interactions involved in the creation and delivery of goods and services to end users. This includes activities both within the enterprise and with external stakeholders, such as suppliers, distributors, and customers. Therefore, the value chain includes any activity, resource, or relationship that the enterprise depends on and utilises in creating products and services — from the initial development phase through to delivery, consumption, and the end of the product's life cycle.

These activities, resources, and relationships typically include (see Figure 2, Figure 3):

- Activities, resources, and relationships used within the organisation's own operations (e.g., production, human resources);
- Activities, resources, and relationships involved in the organisation's sourcing, marketing, and distribution processes, including the identification of suppliers of materials and services, and the sale and delivery of products and services;
- The financial, geographic, geopolitical, and regulatory environment in which the enterprise operates.

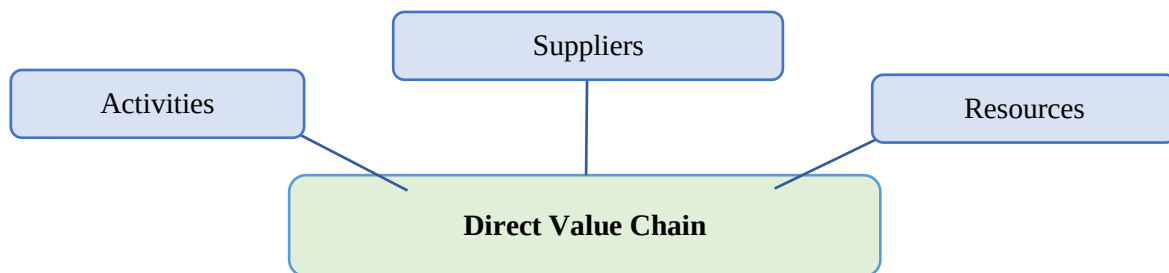


Figure 2. Direct Value Chain
Source: the author

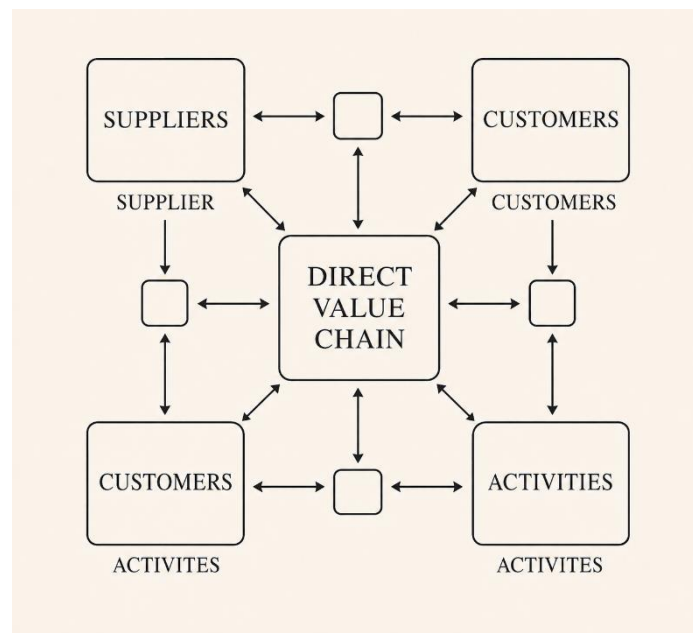


Figure 3. Upstream Value Chain
Source: the author

Upstream and Downstream Value Chain

In the context of sustainability, information on the flow of resources and value creation within the value chain is typically analysed in two segments: the upstream and downstream parts of the value chain (as defined by IFRS S1/S2 and GRI; see Figure 4 below).

Upstream Value Chain

The upstream segment includes all activities that precede the enterprise's core production processes. These consist of sourcing, the contribution of third parties, and the procurement of resources, including:

- Raw material acquisition and transportation
- Semi-finished goods production
- Services provided by contractors
- Procurement of energy and water
- Supplier services and logistics

This stage often involves significant environmental and social risks, such as supplier carbon emissions, child labour, or unsustainable practices. As such, it is a critical focus for assessing the sustainability of the entire supply chain.

Downstream Value Chain

The downstream segment covers all processes that follow the core production or sale of the enterprise's products. This includes activities associated with distribution, consumption, and end-of-life stages of a product. Examples include:

- Logistics and distribution of finished products
- Activities of distributors and retailers
- Consumer behaviour and product usage (e.g., health impact, energy consumption)
- Product disposal, recycling, and reuse

The downstream phase is particularly important for understanding a product's life-cycle impacts, which are often analysed using Life Cycle Assessment (LCA) methodologies. This enables organisations to evaluate the sustainability of products beyond the point of sale and into post-consumer outcomes.

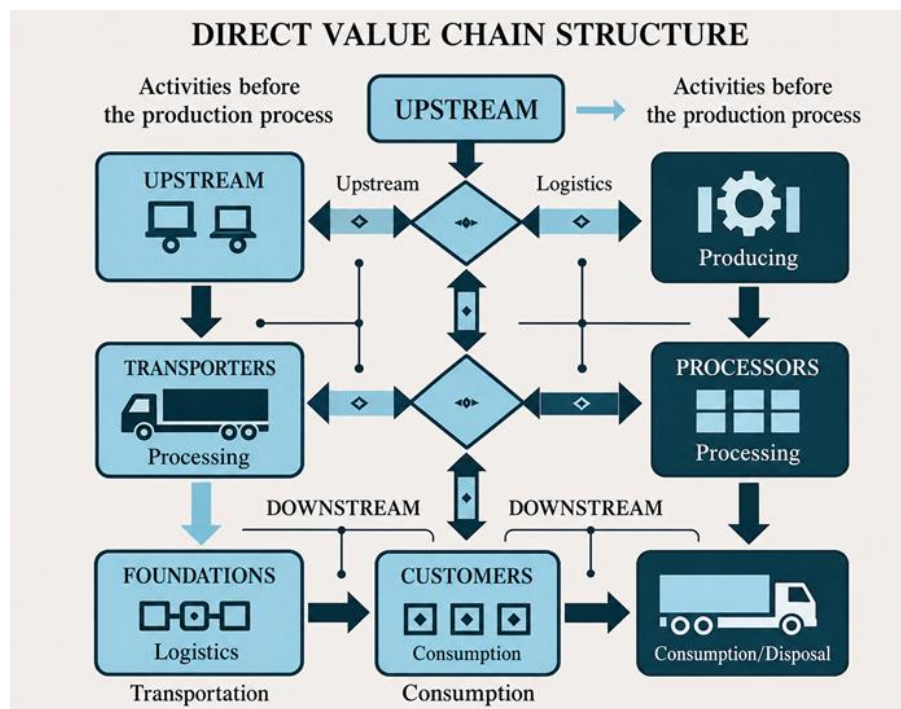


Figure 4. Downstream Value Chain

Source: the author

Value Chain Workers

The value chain encompasses both natural and legal persons. In the upstream value chain, these may include entities such as suppliers, who provide goods and services used by the enterprise in creating its own products

and services. In the downstream value chain, they may include distributors and customers, who receive goods and services from the enterprise. Value chain workers are all individuals or entities involved in the upstream and downstream segments of the value chain on whom the enterprise has or may have a material impact. This includes impacts arising from the enterprise's own operations, its value chain (both upstream and downstream), its products and services, and its business relationships.

Material Impacts, Risks, and Opportunities

In the course of its business activities, an enterprise may exert influence—positive or negative—on people and the environment, including on human rights. These impacts are linked to its operations, value chain (both upstream and downstream), products and services, and business relationships.

Factors contributing to such impacts may include natural and anthropogenic drivers, such as:

- Air, soil, and water pollution
- Deforestation
- Use of hazardous chemicals
- Biodiversity loss
- Climate change

These impacts reflect the enterprise's contribution to sustainable development, whether adverse or beneficial. According to sustainability standards, an impact is any sustainability-related positive or negative effect associated with the enterprise's business activities and identified through a materiality assessment (see Figure 5 below). Impacts may be actual or potential.

A sustainability matter is considered material from an impact perspective when it involves actual or potential effects on people or the environment arising from (European Sustainability Reporting Standards (ESRS), 2023):

- the enterprise's own operations,
- its upstream or downstream value chain,
- its products and services,
- or its business relationships.

In this context, impacts may relate to environmental, social, and governance (ESG) topics ((ESRS), 2023).

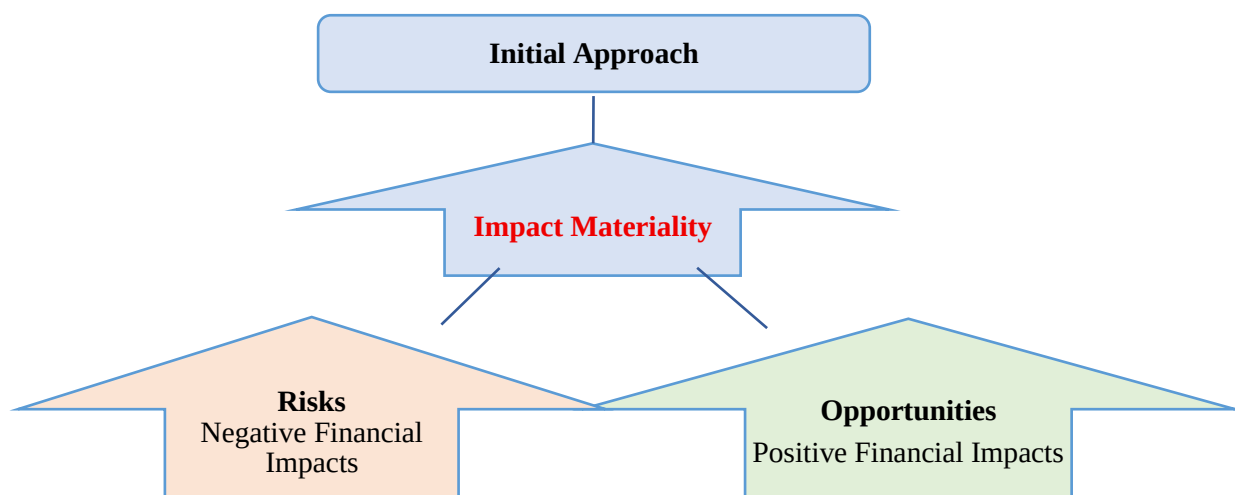


Figure 5. Double Materiality (European Sustainability Reporting Standards (ESRS), 2023)

The assessment of materiality is conducted from two aspects, known as "double materiality". Double materiality has two sides: impact materiality and financial materiality. A sustainability matter meets the double materiality criterion if it is material from an impact perspective, a financial perspective, or both.

The principle of double materiality requires the reflection of both: how an enterprise's finances impact sustainability (*impact materiality*), and how sustainability impacts financial performance (*financial materiality*). In this regard, enterprises must consider sustainability aspects from both perspectives. On the one hand, they should consider the company's impact from an "inside-out" perspective — this dimension is referred to as *impact materiality*. On the other hand, in the materiality assessment, the enterprise must include *financial materiality* from the "outside-in" perspective (Deloitte, 2024).

When assessing financial materiality, it becomes necessary to identify sustainability-related financial risks and opportunities (including those arising from dependency on natural, human, and social resources). Sustainability-related risks are uncertain environmental, social, and governance events or conditions that may negatively impact the value creation strategy and, consequently, sustainability. Material risks are sustainability-related risks with negative financial consequences, which have (or are reasonably likely to have) a material impact on the enterprise's cash flows, access to finance, or cost of capital in the short, medium, or long term. Like any other risk, sustainability-related risks are measured by the combination of impact magnitude and likelihood of occurrence.

In contrast to risks, enterprises may also face opportunities — uncertain environmental, social, and governance events or conditions that may have a material positive impact on the enterprise's value-creation strategy and, consequently, on sustainability. Specifically, material opportunities are sustainability-related opportunities with positive financial effects, which have (or are reasonably likely to have) a material impact on the enterprise's cash flows, access to finance, or cost of capital in the short, medium, or long term. Like any other opportunity, sustainability-related opportunities are measured by a combination of impact magnitude and likelihood of occurrence (see Figure 6).

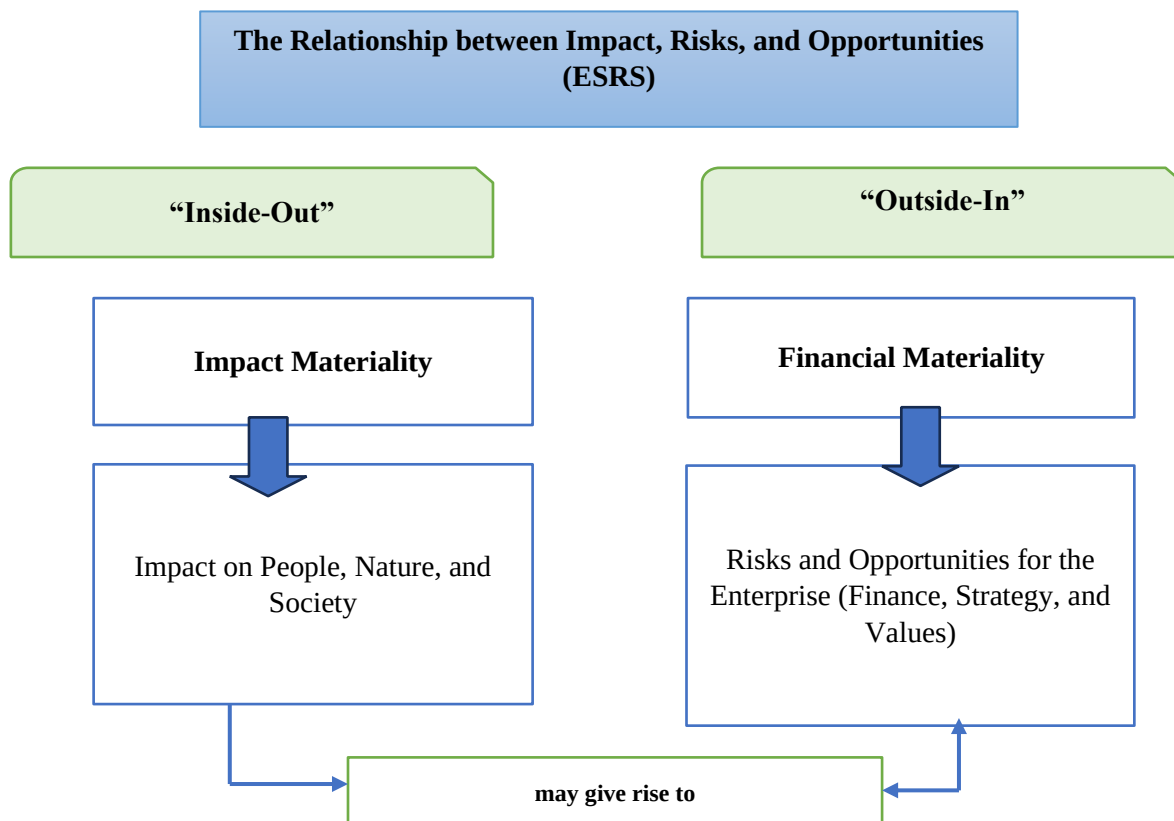


Figure 6. The Relationship Between Impact Materiality, Financial Materiality, Risks and Opportunities
Source: the authors

For example, when an enterprise causes air pollution (a material negative impact), it may face financial risks, such as fines or the need to upgrade equipment and technologies. Alternatively, when an enterprise invests in plastic recycling (a material positive impact), it may gain opportunities such as brand enhancement and increased sales (see Table 2).

Table 2. Impacts and Related Risks/Opportunities

Impact	Financial Effect
Water pollution in production	Risk of sanctions, loss of license, and reputational damage
Violation of workers' rights in the supply chain	Risk of strikes and litigation
Investments in renewable energy	Opportunity to reduce costs and receive "green" subsidies
Promotion of gender equality	Opportunity to attract top talent and enhance brand reputation

Source: the authors

Value Chain Information

The connection between the value chain and sustainability reporting (ESRS) is fundamental, as the ESRS requires the disclosure of impacts, risks, and opportunities not only related to the organisation's own operations, but also to its value chain. Under the ESRS, the reporting scope includes not only the organisation itself but also its entire value chain. ESRS 1 "*General Requirements*" mandates that organisations disclose material impacts, risks, and opportunities associated with both their own activities and those occurring in their upstream and downstream value chains (European Sustainability Reporting Standards (ESRS), 2023). Sustainability disclosures must provide information on material impacts, risks, and opportunities related to the organisation that arise from direct and indirect business relationships within the upstream and/or downstream value chain. In other words, enterprises are expected to report "value chain information" (European Sustainability Reporting Standards (ESRS), 2023). For example, it may be necessary to disclose impacts on capital across the full value-creation chain (e.g., CO₂ emissions or labour practices among key suppliers).

4. The Link and Distinction Between Integrated Reporting and Sustainability Reporting

An enterprise moves beyond the boundaries of financial reporting by integrating sustainability and other non-financial information into its core business strategy and reporting practices. Integrated reporting should demonstrate how the enterprise creates value for all stakeholders, not just shareholders, over the short, medium, and long term. The relationship between Integrated Reporting (<IR>) and the European Sustainability Reporting Standards (ESRS) is strong and mutually reinforcing. Both are based on similar principles and aim to enhance transparency, promote sustainability, and support the creation of long-term value (Raimo et al., 2025). However, they differ in their focus areas and objectives (see Table 3).

Table 3. Comparison between Integrated Reporting (IR) and European Sustainability Reporting Standards (ESRS)

<IR> - Thinking foundations for information integration	ESRS - Specific disclosure requirements
Objective: Value creation over time	Objective: Disclosure of impacts, risks, and opportunities
Reporting type: Voluntary (in most countries)	Reporting type: Mandatory for EU member states
Content: Integration of financial and non-financial information	Content: Requirements based on specific ESRS standards
Double materiality: Partial (with the revised Framework)	Double materiality: Core principle – interaction between business and society
Focus: Strategy, business model, values, and linkage to capital	Focus: ESG factors – climate, workforce, governance, pollution, and others
Compatibility: Can apply ESRS to prepare <IR> reporting	Compatibility: Can use <IR> structure when preparing ESRS reports

For example, when an enterprise prepares an integrated report and discloses information prepared according to the ESRS standards regarding its impacts on climate and society, it presents this information using the logic of the <IR> Framework — that is, explaining how these factors affect the organisation's strategy, risk profile, and long-term value creation. The <IR> Framework is a conceptual structure that integrates financial and non-financial information to demonstrate how an organisation creates, preserves, and erodes value over time (Panfilo et al., 2025; Zhou & Owusu-Ansah, 2025). In contrast, the ESRS provides specific ESG disclosure standards, delivering structured and verifiable information about a company's impacts on the environment and society.

ESG (Environmental, Social, and Governance) reporting and Integrated Reporting (<IR>) are interlinked (Haryanto et al., 2025; Hossain et al., 2025).

For example:

- ESRS provides data and metrics that can be used within the <IR> Framework to support value analysis and presentation.
- The <IR> Framework utilises ESRS-derived information to explain how sustainability factors influence an enterprise's strategy, management approach, and outlook.
- The double materiality concept of ESRS is fully aligned with the <IR> approach to risks, opportunities, and impacts (Drira et al., 2025).
- ESG reporting often leverages insights from <IR>, though its primary focus is on sustainability matters.
- ESG reporting draws on the value-creation model of <IR> to substantiate the organisation's environmental, societal, and governance-related impacts (Haryanto et al., 2025; Hossain et al., 2025).
- ESG sharpens its focus on environmental and social risks (e.g., climate change, labour conditions, reputation), considering both short-term and long-term perspectives.
- ESG reports use ESG indicators, which may be sourced from or adapted from the <IR> framework (e.g., CO₂ emissions, gender diversity, workplace incident rates).

The Relationship Between Integrated Reporting (<IR>) and ESG Reporting

Table 4 and Figure 7 illustrate which elements of integrated reporting are used in ESG reporting and how they are transformed to serve sustainability objectives.

Table 4. Mapping <IR> Components to ESG Reporting

<IR> Reporting Component (IIRC, 2021)	Application in ESG Reporting (EFRAG, 2023)	Link to ESG Factors
Value creation model	Used to analyse impacts on the environment, society, and governance	Impacts E, S, and G
Risks and opportunities	Deepens understanding of climate, social, and governance-related risks and opportunities	Linked to E, S, and G risks
Strategy and objectives	Reflected in sustainability goals and climate strategies	Primarily E and S
Governance	Assesses the role of the board and top management in ESG management	G (Governance)
Stakeholder engagement	Analyses the impacts on employees, customers, suppliers, and local communities	S (Social)
Performance indicators (KPIs)	Applied for ESG metrics: CO ₂ emissions, workplace injuries, staff turnover, etc.	All three components: E, S, G
Future outlook	For sustainability forecasts, climate scenarios, and regulatory adaptation	Primarily E
Types of capital (6 categories)	Focus on natural, social, and human capital	E and S, partly G

Source: EFRAG (2023); IIRC (2021)

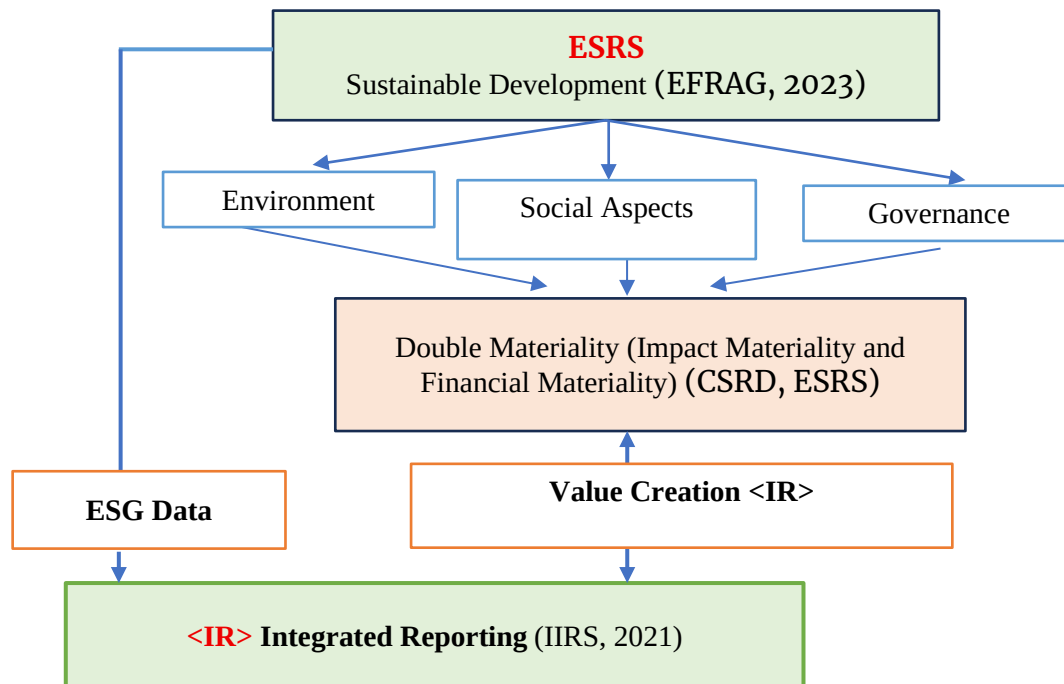


Figure 7. Diagram: The Relationship Between Integrated Reporting (<IR>) and ESG Reporting
Source: the authors

The process of value creation is not limited to production and market evaluation; it also relates to assessing the effectiveness of governance and the organisation's sustainability.

5. Conclusion

Enterprise leadership must recognise that the organisation's impact extends beyond its internal operations — both upstream (procurement) and downstream (outcomes). The enterprise must assess the impacts, risks, and opportunities across its value chain and develop disclosures aligned with ESRS requirements.

The first step is to conduct a value chain analysis, which identifies:

- 1) upstream value chain – who supplies what, and what risks exist (e.g., child labour, water pollution, CO₂ emissions);
- 2) downstream value chain – what outcomes result from the enterprise's activities (e.g., for educational institutions: graduate employability, application of research, digital footprint from online learning).

By conducting an impact materiality assessment, the enterprise evaluates the positive and negative effects of its activities on people and the environment, including the value chain. This represents an outside-in perspective. Financial materiality, on the other hand, focuses on identifying risks and opportunities that affect the enterprise itself, potentially impacting future cash flows, sustainability, and the business model — this is the inside-out perspective. Therefore, material risks and opportunities represent the evaluation of both internal and external factors and may relate to climate change, biodiversity, human rights, resource dependency, and more.

Value chain information includes data related to each stage of a product or service's lifecycle — from creation and delivery to post-sale service. This information supports understanding how value is created at every step of production and logistics, including suppliers, manufacturing, distribution, sales, and consumption.

It helps enterprises to analyse:

- environmental, social, and governance (ESG) risks and opportunities;
- environmental impacts across the supply chain (e.g., climate change);
- the resilience of the business model in the face of changing resources, regulations, or customer expectations.

Sustainability reporting is critical not only for organisations themselves but also for stakeholders — including investors, consumers, employees, and society at large (Drira et al., 2025; Pérez et al., 2025).

Key benefits:

- increased transparency and trust (PWC, 2023) – demonstrates the organisation's openness regarding its impact on the economy, environment, and society; fosters trust among investors, customers, regulators, and the public;
- improved risk management – enables identification and assessment of environmental, social, and governance (ESG) risks; strengthens preparedness for regulatory, climate, and market shifts;
- attracted investments – investors increasingly consider ESG factors in decision-making; companies with strong sustainability indicators are seen as less risky and more promising (Alatawi et al., 2025; Dhifi & Zouari-Hadiji, 2024);
- enhanced business efficiency – sustainability analysis helps identify opportunities to improve resource use and energy efficiency, which can reduce costs and drive innovation (Anschau et al., 2025; El-Deeb & Mohamed, 2024);
- strengthened reputation (PWC, 2022) – companies that publish sustainability reports are perceived as socially responsible and forward-thinking, positively impacting branding, customer loyalty, and talent attraction;
- compliance with international requirements – facilitates adherence to international standards (e.g., GRI, ESRS, IFRS S1/S2) and legal obligations; ensures access to global markets and sustainable finance;
- support for strategic planning (McKinsey Sustainability, 2020) – integrating ESG factors into strategy enables more informed, forward-looking decisions and enhances long-term business resilience and competitiveness.

Key stakeholders interested in this information:

- investors – to assess the company's sustainability and financial reliability;
- clients – when selecting responsible suppliers;
- government agencies – for monitoring environmental and social compliance;
- employees – as indicators of corporate culture and social responsibility;
- educational and research institutions – for analysing and teaching new management practices.

The novelty of the papers lies in the original approach, which allowed for the identification and systematisation of information related to the representation of the entire value chain process—creation, preservation, and erosion of value. The created model can serve as a tool for sustainability assessment.

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