

Incorporating Sustainability Accounting into Curricula: Frameworks, Pedagogies, and Competency Development for Future Accountants

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Abstract

Sustainability accounting has moved from the margins of corporate reporting to the center of decision-making for investors, regulators, and society. The growing emphasis on environmental, social, and governance (ESG) information, climate-related risk disclosures, and integrated reporting has created an urgent need for accounting graduates who are competent in measuring, reporting, and assuring sustainability-related information. This paper examines the imperative of incorporating sustainability accounting into accounting curricula and proposes a structured, competency-based curriculum framework suitable for undergraduate and postgraduate programs. Using a conceptual and literature-driven methodology, the study synthesizes prior research on accounting education reform, sustainability reporting, and professional competency development. The paper develops a Sustainability Accounting Curriculum Integration Framework (SACIF), outlines pedagogical approaches, assessment strategies, and institutional implementation pathways, and discusses challenges faced by educators. The study contributes to accounting education literature by offering a comprehensive, practice-oriented roadmap for embedding sustainability accounting across core accounting courses rather than treating it as a standalone elective.

Key word: sustainability accounting, accounting education, ESG reporting, curriculum development, integrated reporting, accounting pedagogy

Introduction

Accounting education has historically focused on financial performance measurement, stewardship, and decision usefulness for capital providers. However, contemporary business environments increasingly demand accountability for non-financial performance dimensions such as environmental impact, social responsibility, and governance practices. Climate change risks, social inequality, resource scarcity, and ethical governance failures have reshaped stakeholder expectations, placing sustainability accounting at the forefront of corporate reporting and assurance.

Sustainability accounting refers to the identification, measurement, analysis, and reporting of environmental, social, and governance information that complements traditional financial accounting. This shift has significant implications for accounting education, as graduates are now expected to interpret ESG metrics, assess sustainability-related risks, and contribute to integrated corporate reporting processes. Despite this growing relevance, many accounting programs continue to treat sustainability topics as peripheral or elective components, leading to a gap between academic preparation and professional practice.

The purpose of this paper is to explore how sustainability accounting can be systematically incorporated into accounting curricula. The study addresses the following research questions:

1. Why is sustainability accounting integration essential in contemporary accounting education?
2. What competencies should accounting graduates develop in sustainability accounting?
3. How can sustainability accounting be embedded across accounting curricula using effective pedagogical and assessment strategies?

2. Conceptual Background: Sustainability Accounting and Education

Sustainability accounting extends beyond traditional cost and profit measurement to include environmental and social externalities, long-term value creation, and stakeholder accountability. Frameworks such as sustainability reporting standards, integrated reporting models, and ESG performance metrics have expanded the scope of accounting practice. Consequently, accountants are increasingly involved in data collection, performance measurement, internal control design, and assurance of sustainability information.

From an educational perspective, this expansion challenges the traditional boundaries of accounting curricula. Conventional programs emphasize technical proficiency in financial accounting standards, auditing procedures, and taxation rules. Sustainability accounting, by contrast, requires interdisciplinary understanding, systems thinking, ethical judgment, and the ability to work with qualitative and quantitative non-financial data. Incorporating sustainability accounting into curricula therefore represents not merely an addition of new content but a transformation in how accounting is taught and understood.

3. Literature Review

3.1 Accounting Education Reform

Prior research on accounting education reform highlights recurring concerns about curriculum relevance, skills mismatch, and graduate employability. Studies emphasize the need for accounting programs to evolve in response to technological change, globalization, and regulatory developments. Recent scholarship increasingly identifies sustainability and ESG reporting as critical areas where traditional accounting education falls short.

3.2 Sustainability Accounting and Reporting

The literature on sustainability accounting underscores its role in enhancing transparency, accountability, and long-term value creation. Researchers note that sustainability disclosures influence investor behavior, corporate reputation, and risk assessment. However, the credibility of such disclosures depends heavily on the competence and ethical orientation of accounting professionals involved in their preparation and assurance.

3.3 Integration of Sustainability into Business Curricula

Studies across business education suggest that sustainability integration is most effective when embedded across courses rather than confined to standalone subjects. Integrated approaches enable students to view sustainability as a core business concern rather than an optional ethical add-on. In accounting education, this implies embedding sustainability concepts within financial accounting, management accounting, auditing, and accounting information systems courses.

3.4 Identified Research Gap

While existing literature acknowledges the importance of sustainability accounting education, there is limited consensus on how curricula should be structured, what competencies should be prioritized, and how learning outcomes should be assessed. This paper addresses this gap by proposing a comprehensive curriculum integration framework.

4. Theoretical Framework

This study draws on three complementary theoretical perspectives:

1. **Stakeholder Theory**, which emphasizes the responsibility of organizations to multiple stakeholder groups and underpins the rationale for sustainability reporting.
2. **Human Capital Theory**, which views education as an investment in skills and competencies required by evolving labor markets.
3. **Constructive Alignment Theory**, which guides curriculum design by aligning learning outcomes, teaching activities, and assessment methods.

Together, these theories support the argument that sustainability accounting competencies should be intentionally designed, taught, and assessed within accounting programs.

5. Research Methodology

This paper adopts a **conceptual and integrative literature review methodology**. Academic journal articles, professional education reports, and curriculum guidelines related to accounting education and sustainability accounting were systematically reviewed. Key themes were identified, synthesized, and organized to develop a curriculum integration framework.

The methodological approach emphasizes theory development and practical applicability rather than empirical testing. The resulting framework is intended to guide educators and institutions in curriculum redesign and can serve as a foundation for future empirical research.

6. Sustainability Accounting Curriculum Integration Framework (SACIF)

Figure 1. Sustainability Accounting Curriculum Integration Framework (SACIF)

External Drivers

(Regulation, ESG demand, Stakeholder pressure)

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Curriculum Design Layer

(Core courses + Integrated sustainability content)

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Learning Domains

- Knowledge (ESG concepts, reporting frameworks)
- Skills (measurement, analysis, assurance)
- Values (ethics, accountability, long-term thinking)

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v

Pedagogy & Assessment
(Case studies, projects, simulations, reports)

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Graduate Outcomes
(Sustainability-literate, ethical accounting professionals)

The SACIF illustrates how external sustainability demands translate into curriculum design decisions, learning domains, pedagogical strategies, and desired graduate outcomes.

7. Curriculum Structure and Content Integration

7.1 Financial Accounting

Sustainability accounting concepts can be integrated by discussing environmental liabilities, asset impairment due to climate risks, and sustainability-related disclosures in financial statements. Students learn how sustainability issues affect recognition, measurement, and disclosure decisions.

7.2 Management Accounting

Management accounting courses can incorporate sustainability performance measurement, environmental cost management, carbon accounting, and sustainability-oriented budgeting. This enables students to understand how sustainability information supports internal decision-making.

7.3 Auditing and Assurance

Auditing courses provide a natural platform for sustainability accounting integration through discussions of non-financial assurance, data reliability, internal controls over ESG information, and professional skepticism in sustainability contexts.

7.4 Accounting Information Systems

Sustainability data collection and reporting rely heavily on information systems. Integrating sustainability accounting into this course exposes students to ESG data management, analytics, and reporting technologies.

8. Pedagogical Approaches

8.1 Case-Based Learning

Real-world sustainability reporting cases encourage students to analyze practical challenges, evaluate trade-offs, and apply accounting judgment in ambiguous situations.

8.2 Project-Based Learning

Group projects involving sustainability reports, ESG performance analysis, or simulated assurance engagements foster teamwork, research skills, and applied learning.



8.3 Experiential and Reflective Learning

Internships, industry collaborations, and reflective assignments help students connect theoretical knowledge with professional practice and ethical considerations.

9. Assessment Strategies

Effective assessment of sustainability accounting competencies requires moving beyond traditional examinations. Suitable assessment tools include analytical reports, sustainability dashboards, case presentations, and reflective essays. Rubrics should evaluate not only technical accuracy but also critical thinking, ethical reasoning, and communication clarity.

10. Challenges in Implementation

Despite its importance, integrating sustainability accounting into curricula presents challenges. These include faculty capability gaps, curriculum overload, limited teaching resources, and resistance to change. Addressing these challenges requires institutional support, faculty development programs, and collaboration with professional bodies and industry.

11. Implications for Accounting Education and Practice

Embedding sustainability accounting into curricula has significant implications. For educators, it necessitates curriculum redesign and pedagogical innovation. For students, it enhances employability and professional relevance. For the profession, it strengthens the credibility and quality of sustainability reporting and assurance practices.

12. Conclusion

Incorporating sustainability accounting into accounting curricula is essential for preparing future accountants to meet evolving societal and professional expectations. This paper proposed the Sustainability Accounting Curriculum Integration Framework (SACIF) as a structured roadmap for embedding sustainability accounting across accounting programs. By aligning curriculum content, pedagogy, and assessment with sustainability competencies, accounting education can contribute meaningfully to responsible business practices and sustainable development.

Future research should empirically test the effectiveness of integrated sustainability accounting curricula and explore student learning outcomes across different educational and cultural contexts.

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