



Climate Change Accounting Education: Assessing Global Readiness of Future Accounting Professionals

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Abstract

Climate change has emerged as one of the most critical global challenges, exerting profound implications for business operations, financial reporting, and regulatory frameworks. As organizations face increasing pressure to measure, disclose, and manage climate-related risks, the role of accountants has expanded beyond traditional financial reporting to encompass sustainability, carbon accounting, and environmental performance disclosure. This research article examines the global readiness of accounting education systems in addressing climate change challenges. Using an integrative literature review approach, the study evaluates curriculum design, pedagogical strategies, institutional initiatives, and professional standards related to climate change accounting education. The findings reveal significant disparities across regions, with developed economies demonstrating relatively higher integration of climate-related content compared to emerging economies. However, gaps persist globally in terms of faculty expertise, curriculum consistency, and practical skill development. The paper proposes a conceptual framework for climate change accounting education and offers recommendations for educators, professional bodies, and policymakers to enhance global preparedness.

Key word: Climate Change Accounting, Sustainability Accounting Education, ESG Reporting, Carbon Accounting, Accounting Curriculum

Introduction

Climate change represents a systemic risk to economies, organizations, and financial systems worldwide. Increasing occurrences of extreme weather events, resource scarcity, and regulatory interventions have heightened the demand for transparent and reliable climate-

related financial information. Consequently, accountants are now expected to play a pivotal role in measuring environmental impacts, managing climate-related risks, and supporting sustainable decision-making.

Traditional accounting education, however, has largely focused on historical financial information, compliance, and profit maximization. While these competencies remain essential, they are insufficient in a context where environmental, social, and governance (ESG) factors significantly influence firm value and stakeholder trust. Climate change accounting education seeks to bridge this gap by equipping students with knowledge of carbon measurement, sustainability reporting, and climate risk assessment.

This paper investigates the extent to which accounting education globally is prepared to address climate change challenges. It explores curriculum developments, teaching methodologies, and institutional readiness while highlighting regional disparities and systemic constraints.

2. Literature Review

2.1 Climate Change and the Accounting Profession

The accounting profession has increasingly recognized climate change as a material financial issue. Climate-related risks—both physical and transition risks—affect asset valuation, supply chains, insurance costs, and long-term viability (IFRS Foundation, 2021). Accountants are central to identifying, measuring, and disclosing these risks through integrated reporting and sustainability frameworks.

Research suggests that accountants must possess interdisciplinary knowledge encompassing environmental science, economics, and governance to effectively respond to climate challenges (Bebbington, Larrinaga, & Moneva, 2008). This shift necessitates fundamental changes in accounting education.

2.2 Sustainability and Environmental Accounting Education

Sustainability accounting education focuses on measuring and reporting environmental and social impacts alongside financial performance. Studies indicate that integrating sustainability topics enhances students' awareness of ethical responsibility and long-term value creation (Gray, 2010).

Despite growing academic interest, sustainability accounting content is often treated as an elective or peripheral topic. This marginalization limits students' exposure to climate-related accounting practices and reduces their preparedness for professional roles.

2.3 Global Disparities in Climate Accounting Education

The literature highlights substantial differences in climate accounting education across regions. Universities in Europe, Australia, and parts of North America have made notable progress in embedding ESG and climate content into accounting programs. In contrast, many institutions in developing economies face challenges related to curriculum rigidity, limited resources, and lack of trained faculty (Tilt, 2016).

3. Research Objectives

The objectives of this study are to:

1. Examine the current state of climate change accounting education globally.

2. Identify key curriculum components and pedagogical approaches addressing climate issues.
3. Analyze challenges affecting global readiness in accounting education.
4. Propose a conceptual framework to enhance climate change accounting education.

4. Research Methodology

This study adopts an integrative literature review methodology, synthesizing academic research, professional standards, and policy reports published between 2005 and 2024. Sources were identified through databases such as Scopus, Web of Science, Google Scholar, and SSRN. The literature was analyzed thematically, focusing on curriculum integration, teaching methods, institutional initiatives, and professional guidance. This approach enables a holistic assessment of global readiness while identifying best practices and gaps.

5. Climate Change Accounting Education: Curriculum Perspectives

5.1 Carbon Accounting and Emissions Measurement

Carbon accounting forms the foundation of climate-related financial reporting. It involves quantifying greenhouse gas emissions and assessing their financial implications. Integrating carbon accounting into accounting curricula enables students to understand emissions scopes, measurement standards, and reporting challenges.

5.2 ESG and Sustainability Reporting

ESG reporting frameworks such as the Global Reporting Initiative (GRI) and Sustainability Accounting Standards Board (SASB) have become integral to corporate disclosure. Accounting education must familiarize students with these frameworks and their application in real-world contexts.

5.3 Climate Risk and Financial Decision-Making

Climate risks affect asset impairment, provisioning, and long-term financial planning. Teaching students how to incorporate climate scenarios into financial analysis enhances their ability to support strategic decision-making.

6. Pedagogical Approaches to Enhancing Global Readiness

6.1 Case-Based and Problem-Based Learning

Real-world climate-related cases encourage students to analyze complex, uncertain situations. Case-based learning fosters critical thinking and demonstrates the financial relevance of climate change.

6.2 Interdisciplinary Teaching

Climate change accounting education benefits from collaboration with environmental science, economics, and public policy disciplines. Interdisciplinary teaching broadens students' perspectives and strengthens analytical capabilities.

6.3 Experiential and Project-Based Learning

Projects involving sustainability reports, carbon audits, or ESG assessments provide hands-on experience. Such experiential learning bridges the gap between theory and practice.

7. Conceptual Framework for Climate Change Accounting Education

Figure 1: Conceptual Framework for Global Climate Change Accounting Education Readiness

(Description: The framework illustrates curriculum inputs—carbon accounting, ESG reporting, climate risk analysis—combined with pedagogical strategies such as case-based learning and interdisciplinary teaching, leading to enhanced competencies, professional readiness, and sustainable value creation.)

8. Challenges to Global Readiness

Several challenges hinder the effective integration of climate change accounting education. Faculty members may lack specialized knowledge, while curriculum overcrowding limits the inclusion of new topics. Additionally, inconsistent professional guidance creates uncertainty regarding learning outcomes.

In developing economies, resource constraints and regulatory priorities often limit institutional focus on climate issues. Cultural perceptions that view sustainability as secondary to financial performance further exacerbate these challenges.

9. Implications for Stakeholders

9.1 Implications for Educators

Educators should embed climate change topics across accounting courses rather than isolating them in electives. Continuous professional development and collaboration with sustainability experts are essential.

9.2 Implications for Professional Bodies

Professional accounting bodies must provide clearer competency frameworks linking climate change knowledge to professional certification and accreditation standards.

9.3 Policy Implications

Governments and accreditation agencies should encourage curriculum innovation and provide incentives for integrating sustainability and climate accounting education.

10. Conclusion

Climate change accounting education is no longer optional but a fundamental requirement for preparing globally competent accounting professionals. While progress has been made in certain regions, global readiness remains uneven. This study underscores the need for systematic curriculum reform, innovative pedagogy, and stronger collaboration between academia and professional bodies. By embracing climate change accounting education, institutions can empower future accountants to contribute meaningfully to sustainable development and long-term economic resilience.

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