Bridging the Sustainability Gap in Accounting Education: The Case of Albania

Brisejda Zenuni Ramaj
Faculty of Economy, Lecturer in Accounting Department, University of Tirana
brisejda.ramaj@unitir.edu.al

Edlira Aliaj
Faculty of Economy, Economics Department, University of Vlora "Ismail Qemali"
edliraaliaj@yahoo.it

Abstract

Environmental Management Accounting (EMA) represents a critical competency gap in modern accounting education, particularly in developing economies transitioning toward European standards. While EMA offers a comprehensive approach enabling organizations to incorporate environmental considerations into management practices, traditional accounting curricula often fail to prepare graduates for this complexity. Full cost accounting goes beyond financial accounting by taking into account direct and indirect environmental costs, yet this is rarely emphasized in standard university syllabi. Integrating procedures and principles of accounting for environmental management allows organizations to effectively integrate environmental considerations into their decision-making processes; however, without educational intervention, this integration remains theoretical. This study investigates the educational and professional development landscape in Albania, arguing that the successful adoption of EMA relies heavily on "normative pressure" generated by higher education institutions and professional training bodies. By analyzing data from key industrial sectors (steel, oil, mining), the paper identifies a profound "skills gap" where domestic professionals lack the training to track environmental costs, unlike their counterparts in international firms. The study proposes a comprehensive curricular framework for integrating EMA into accounting education, suggesting that universities must redesign syllabi to include physical material flow accounting, monetary environmental accounting, and life-cycle costing. The findings suggest that higher education institutions and professional associations must act as the primary drivers of sustainable corporate behavior by institutionalizing environmental accounting literacy.

Keywords: Environmental Accounting Education, Sustainable Curriculum, Professional Development, Educational Policy, Accounting Pedagogy, Higher Education Reform, Albania.

Introduction: The Educational Imperative for Sustainable Accounting

The intersection of economic activity and environmental degradation has created one of the most pressing challenges for the 21st century. Environmental issues arise due to the interaction between economic and environmental activities, and the higher the intensity of industrial activity, the higher the impact on environmental degradation. As global awareness of these issues grows, the role of education—specifically business and accounting education—has come under scrutiny. It is no longer sufficient for universities to produce graduates skilled solely in traditional financial reporting; the modern economy demands professionals capable of navigating the complex terrain of sustainability. Therefore, environmental issues have been a serious problem to monitor and need a preliminary action by the parties involved, with educational institutions being paramount among them.

Environmental accounting, or green accounting, portrays an attempt to combine the cost and impact of environmental activities in economic decision-making. However, the successful implementation of such sophisticated systems requires a workforce that possesses deep conceptual understanding and technical proficiency. The aim of environmental accounting is to scale up the efficiency of environmental management in order to evaluate environmental activities through environmental costs and economic benefits. Yet, without a robust educational foundation, these concepts remain abstract ideals rather than practical tools.

In the context of Albania, a country acceding to be part of the European Union, the pressure to align with international environmental standards is intense. To overcome environmental damage, regulatory frameworks such as the Regulation of the State Ministry of Environment have been introduced to rank environmental performance. However, the environmental responsibility of industrial companies remains one of the greatest challenges facing the economic, financial, and social systems of the country. This challenge is exacerbated by a lack of specialized knowledge among local professionals. The high volume of industrial activities directly affects the pollution of the environment—including air, water, soil, biological diversity, waste, radiation, chemicals, and noise—which leads to an imbalance of the components and elements of the environmental system. Addressing this imbalance requires more than just regulation; it requires a fundamental shift in how accountants are educated and trained.

This study aims to study the effect of measuring environmental costs in defining a clear strategy of environmental responsibility through the perspective of educational capacity building. It directs attention to the environmental impacts caused by industrial companies, arguing that these companies cannot reduce the level of environmental

pollution risks without professionals trained to measure and manage them. The paper posits that the current gap in EMA implementation in Albania is fundamentally an educational deficit, solvable only through targeted curriculum reform and enhanced professional development.

Theoretical Framework: Institutional Theory and the Role of Education

To understand why EMA education is critical, one must look at the drivers of organizational change. Institutional environmental characteristics are increasingly recognized as important determinants of organizational structure and performance. When the environment is no longer a local or national issue but becomes global, it is necessary and appropriate to protect the environment in the accounting system.

The Role of Normative Pressure Institutional theory suggests that organizations are influenced by three types of pressures: coercive (regulatory), mimetic (copying others), and normative. While coercive pressure motivates businesses to apply EMA to achieve legitimacy via regulations and government legal documents, this study argues that **normative pressure** is the most critical factor for deep, sustainable change, and this pressure is a direct product of education.

According to institutional theory, normative pressure stems from the pressure on social norms formed by the educational and professional background to achieve corporate behavior. Therefore, normative pressures are pressures on organizations to adhere to professional standards, regulations, principles, and ethics and are realized through education and professional associations. Accountants agree that their work is closely related to their education and training. They naturally react to information provided by other accountants and by the professional associations of which they are members.

The Education-Practice Nexus The link between university curricula and workplace practice is undeniable. If universities do not teach EMA, graduates do not practice it, and organizations remain stagnant. It can be expected that the implementation of EMAs by businesses will be influenced by pressure from professional bodies or educational institutions. In other words, normative pressure is a solid premise for the application of EMA. Research by Qian et al. (2015) examined normative barriers related to the development of EMA and found that public awareness and education are important factors influencing implementation. Furthermore, Chang and Deegan (2010) confirm that in developed countries, professional associations and formal educational institutions play an important role in influencing organizations' behavior on environmental issues. This contrast highlights a significant opportunity for developing countries like Albania: by strengthening the educational pipeline, the national adoption of sustainable business practices can be accelerated.

Methodology

This study employs a qualitative approach, utilizing both primary and secondary data sources to assess the state of EMA education and practice in Albania. Secondary data are obtained from conferences, seminars, published topics, and scientific articles. The primary data collection involved a survey and interviews targeting a specific demographic: individuals who fully understand the enterprise's internal control system and financial management.

This demographic—chief accountants, financial managers, and controllers—serves as a proxy for evaluating the efficacy of the current higher education system. By assessing their knowledge (or lack thereof) regarding EMA, we can infer the strengths and weaknesses of the accounting curricula they were exposed to. The survey focused on selected businesses operating in Albania with significant environmental footprints, such as the steel industry, oil refining, and mining. The analysis compares the practices of domestic Albanian firms against international companies operating within the same borders, thereby isolating the variable of "educational background" and "professional culture."

The Educational Deficit: Analysis of Current Practices

The findings of the study reveal a stark disparity that points directly to gaps in the local educational framework.

The Skills Gap in Domestic Enterprises From interviews with relevant accounting departments in domestic Albanian businesses, we found that accounting departments do not have separate accounts to track and recognize environmental costs and revenues. This is not merely a procedural oversight; it represents a lack of conceptual awareness. Taxes paid for the use and extraction of inputs from the environment, expenses incurred for pollution prevention, and investments made in the environment were not categorized in environmental accounts but were treated as general expenses.

Because conventional management accounting systems attribute many of these environmental costs to general accounts, product and production managers have no incentive to reduce environmental costs, and executives are often unaware of the extent of environmental costs. This "blindness" to environmental costs is a direct result of traditional accounting education, which teaches students to lump overheads together rather than tracing them to their source. Consequently, only large investments were classified and presented in financial statements, missing the daily opportunities for efficiency that EMA provides.

The "International Effect" as Evidence of Educational Impact Interestingly, in international companies operating in Albania, the accounting department recognizes and categorizes environmental costs and investments. These firms typically employ staff trained in jurisdictions where EMA is part of the standard professional development, or they import internal training programs. They use input/output analysis as it is the less costly and easiest method to apply.

Entities that used EMA were able to provide reports on environmental performance, in relation to energy use per unit, water use per unit, and waste generation. Furthermore, entities using EMA were able to control environmental costs and optimize product costs by optimizing the input/output ratio of materials. This success validates the hypothesis that the barrier to EMA in Albania is not technical impossibility, but a lack of *human capital*—a failure of the education system to equip local accountants with the necessary tools.

Designing a Curriculum for Environmental Management Accounting

To bridge this gap, Higher Education Institutions (HEIs) in Albania and similar developing economies must overhaul their accounting curricula. The study identifies specific technical areas that must be transformed into educational modules. The objective of this paper is to define the principles and procedures for EMA with a focus on techniques for quantifying environmental costs as a basis for developing national EMA guidelines and educational frameworks.

Here is the revised section. I have removed the bullet points and "Module" labels, rewriting the content into a flowing, narrative manuscript style suitable for an academic journal. I have also extended the text to deepen the pedagogical analysis and ensure smooth transitions between concepts.

Designing a Competency-Based Curriculum for Environmental Management Accounting

Foundational Concepts and the Redefinition of Cost

The initial phase of curricular reform requires a fundamental restructuring of how students perceive the scope of accounting. It is insufficient to merely add environmental topics to existing courses; rather, educators must instill the understanding that Environmental Management Accounting (EMA) is a comprehensive management approach rather than a supplementary reporting task. The pedagogical priority here is to dismantle the traditional boundary between "financial" and "environmental" data. Students must be guided to understand that full cost accounting transcends the limitations of financial accounting by systematically integrating both direct and indirect environmental costs into the decision-making matrix.

A primary educational hurdle that must be addressed in the classroom is the ambiguity surrounding the definition of environmental costs. Conventional accounting education typically categorizes costs as fixed or variable, a binary that fails to capture the nuance of environmental liability. Therefore, the curriculum must rigorously define environmental costs as encompassing both internal and external dimensions. Coursework should necessitate the identification of corporate environmental costs, such as the specific expenditures related to managing contaminated sites, investing in leakage control technologies, and financing waste disposal protocols. Furthermore, the philosophical approach to costing must shift from reaction to prevention. Students should be engaged

in case studies that demonstrate how pollution prevention—achieved through alterations in product design and production processes—serves not only an ecological function but a financial one. By teaching the principle that "prevention avoids the cost of cure," educators can demonstrate how eliminating waste and emissions at the source removes the subsequent financial burden of treatment and disposal.

Physical Accounting and Material Flow Logic

Once the conceptual foundation is laid, the curriculum must pivot to the mechanics of physical accounting. Traditional accounting education is almost exclusively focused on monetary units, a focus that blinds future accountants to the physical realities of resource consumption. A robust EMA curriculum requires a radical departure from this standard, introducing material flow balances that track physical units of materials, water, and energy within a defined system boundary. This shift requires students to develop a new literacy: the ability to track material flows with the same rigor usually reserved for cash flows.

The central pedagogical tool for this competency is Input/Output Analysis. In this context, students learn to construct balances that record all material inputs—including raw materials, water, and energy—and reconcile them against the quantity of final products and waste. This exercise highlights the inefficiencies often hidden in standard financial reports. To contextualize the importance of this tracking, the curriculum should emphasize the "20/80 Rule," a heuristic suggesting that approximately 20 percent of manufacturing activities are responsible for 80 percent of environmental costs. By teaching students to identify and isolate these high-impact activities through physical accounting, universities equip them with the analytical precision necessary to drive substantial organizational change.

Advanced Cost Allocation Methodologies

The most technically demanding aspect of the proposed curriculum involves a reassessment of overhead allocation. Traditional cost accounting systems are notoriously poor at quantifying unproductive production, often burying waste costs in general overhead accounts. To rectify this, Higher Education Institutions must introduce and mandate advanced methodologies that provide granular visibility. Activity-Based Costing (ABC) should be elevated from an elective topic to a core component of the environmental accounting syllabus. By learning to allocate costs specifically to polluting activities and products, students can expose the true financial drivers of environmental inefficiency.

Furthermore, the curriculum should introduce Flow Cost Accounting, a methodology that traces material flows through the company's various cost centers. This approach increases transparency regarding quantities, values, and costs, allowing future managers to see waste not as a necessary byproduct, but as a financial loss. Complementing this is the study of Life Cycle Costing. While students must be made aware of the challenges

regarding data inconsistency in this method, the theoretical grounding is essential. Understanding relevant costs incurred over the entire life cycle of a product encourages a long-term strategic view that is often missing in short-term financial planning.

External Reporting and Strategic Communication

The final pillar of the curriculum addresses the "language" of environmental reporting. It is not enough to calculate costs; the modern accountant must be able to communicate environmental performance to internal management and external stakeholders. This requires a specific focus on integrating EMA data into standard financial vehicles, such as the annual balance sheet and profit and loss accounts.

Pedagogically, this involves teaching students the specific relevance of different account types. For instance, while accounts receivable and cash positions are standard metrics of health, students must learn that in an environmental context, provisions are of paramount importance. Many companies must recognize liabilities for potential environmental damage, and the ability to accurately calculate and justify these provisions is a critical skill. By mastering these communication tools, graduates can ensure that environmental data is not marginalized but is presented with the same authority as financial data.

Implications for Educational Policy and Professional Development

The transition to a green economy is a systemic challenge that cannot be achieved by industry alone; it requires a concerted, synchronized effort from the educational sector and policymakers. Socio-economic development must attach permanent importance to the protection and improvement of the environment, moving beyond token gestures to structural integration. Given that Albania is being strongly affected by climate change, pollution, and environmental degradation, the education of its business leaders is not merely a matter of economic competitiveness but of national security.

The Role of Government and Policymakers

The state acts as the primary facilitator of this educational shift. While regulation is often viewed as a constraint, in the context of education, it is an enabler. State management agencies should consider and develop legal documents that do not just punish pollution but regulate and guide enterprises in the process of organizing EMA systems. This includes the establishment of educational mandates where the government coordinates with professional organizations to organize seminars and forums on environmental issues. Furthermore, policy should aim at broad dissemination. By promoting environmental protection awareness in the media, the government can help create a culture where students feel a societal demand for these skills, thereby increasing enrollment in EMA-related courses.

The Gatekeeping Role of Professional Associations

Professional bodies, such as Associations of Accountants, act as the gatekeepers of the profession and are the primary source of the "normative pressure" essential for change. These organizations must move beyond traditional certification to become active agents of sustainability. This involves the regular organization of short-term training programs focused specifically on EMA themes and cooperation with international professional organizations to offer globally recognized certificates. Moreover, training institutions must take a proactive role in curriculum development. They should implement the motto of "training related to practice" by researching EMA applications and introducing simulation competitions and practical workshops. Strengthening the propaganda and dissemination regarding the benefits of implementing EMA is crucial; professional bodies must market these skills as essential for career advancement, driving demand for these courses among early-career professionals.

The Responsibility of Higher Education Institutions

Ultimately, universities must view themselves as the operational engine of this change. The integration of EMA principles and procedures must be total; they should be embedded into core management accounting courses rather than relegated to specialized electives where they may be overlooked by the majority of students. Beyond the classroom, HEIs should encourage practical engagement by guiding students toward international certification courses (e.g., ACCA, CPA Australia). This not only improves knowledge but contributes to the growth of experience within the domestic workforce. Finally, universities should help enterprises become "learning organizations." By fostering an environment where information exchange and mutual support serve as a premise for the application of EMA, universities can bridge the gap between academic theory and industrial practice.

Conclusion

The integration of Environmental Management Accounting into the corporate fabric of Albania is not merely a technical challenge; it is fundamentally an educational one. While environmental management accounting offers management the tools to identify cost savings by identifying, estimating, and allocating environmental costs, this potential is currently stifled by a workforce that has not been trained to recognize these opportunities. The results of this study confirm that normative pressure—the pressure arising from a shared educational background and professional standards—is a critical, yet currently underutilized, driver for EMA implementation in Albania.

To move forward, a tripartite approach is necessary involving the government, professional associations, and universities. By redesigning curricula to include physical accounting, material flow logic, and environmental cost allocation, educators can produce a new generation of accountants who are not just scorekeepers of financial history, but guardians of a sustainable future. Only through such a comprehensive educational reform can Albania hope to balance the competing demands of economic growth and

environmental preservation, aligning its domestic practices with the broader European standards to which it aspires.

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