

Environmental accounting curriculum construction: a study from environmentally challenging site

Fidelis Arastyo Andono^{1,*}, Ach. Maulidi¹, Jantje E. Lekatompessy²

¹Faculty of Business and Economics, University of Surabaya, Surabaya, Indonesia

²Faculty of Teacher Training and Education, Pattimura University, Ambon, Indonesia

Received: April 1, 2026; Revised: September 11, 2026;
Accepted: September 11, 2026; Published: November 28, 2026

Abstract

The demand for the business to engage more into sustainability issues contributes to the increasing challenge in accounting profession to adapt to it. Yet, previous studies that deeply investigate the effort to close the accounting graduates competencies gap through relevant curriculum are limited, especially in the context of environmentally fragile regions. The purpose of this study is to deeply investigate how environmental awareness is constructed and enacted within accounting curriculum development in this context. This research design is grounded in Schatzki's theory of practice and site ontology to guide data analysis process. North Maluku as the jurisdiction of LLDIKTI XII was selected in accordance to the research gap, and semi-structured interviews were conducted with nine accounting academics from six universities under within the area to discover how sustainability values are internalised and translated into pedagogical and institutional practices. The findings suggest that curriculum development operates as a living practice of collective reflection, professional dialogue, and moral engagement where educators integrate environmental awareness across ethics, management, and locally contextual modules. Moreover, professional networks emerge as dialogic practice sites where academic and professional logics converge to co-construct curriculum legitimacy. Theoretically, the study extends Schatzki's notion of social sites by conceptualising curriculum as an evolving ecology of moral practice linking sustainability, ethics, and professional identity. Practically, it calls for institutional frameworks that promote reflective curriculum forums, collaborative networks, and sustainability-driven pedagogical rewards. Through this integration, accounting education becomes a site for developing moral agency and ecological accountability in regions facing acute environmental challenges.

Keywords: *environmental accounting education, curriculum construction, sustainability integration, a living practice.*

Introduction

The escalating demand for sustainability reporting as a part of environmental accounting practice leads to the readiness crisis amongst accounting profession to accommodate this challenge, by which trigger the need for universities to update their graduates accordingly (Khosa, Wilkin, & Pandey, 2026; Vu, 2025). To close the gap in this matter, it is important that accounting higher education internalise the environmental risks and potentials into financial and accounting higher education context (KPMG, 2026). Further, accounting programmes in universities need to prepare their students to cope with environmental sustainability or green values in their studies (Wynder, Wellner, & Reinhard, 2013). It means, accounting educators need to use disruptive teaching methods to force the students to confront the conflict between traditional business measures and the need for environmental engagements (Gray, 2013).

On the other side, the link between economic growth and environmental quality has long been one of the toughest and most unsettled questions in public debate. Despite existing extensive policy reforms, modern development models continue to see the nature as an infinite resources ready to be exploited which leads to systemic conflict of business goals and environment protection. Heshmati (2014) reminds us that without strong and deliberate policy intervention, growth will always carry environmental costs, while Ssekibaala, Ariffin, & Duasa (2022) show how trade liberalisation and market expansion, though promising prosperity, often leave behind severe ecological damage in developing countries. Even advances in technology that promise efficiency rarely repair what is already lost (Andrée, Chamorro, Spencer, Koomen, & Dogo, 2019). The idea that efficiency alone can save the planet is increasingly untenable. Additionally, studies across nations show that the environmental impacts of growth are uneven and deeply dependent on institutional strength and governance quality (Uddin, 2021; Dang & Serajuddin, 2020). The evidence suggests that sustainability is not an outcome of growth itself but of the ethical and institutional frameworks that define what growth means and for whom it serves.

This contradiction is sharply visible in places like Indonesia. The provinces of Maluku and North Maluku, for instance, have recorded some of the country's highest economic growth rates, driven by mining and extraction, yet they also suffer from some of its most serious environmental losses (Kementerian ESDM, 2024; BBC, 2024; Ichi, 2024). The promise of prosperity sits uneasily beside polluted water, eroded land, and displaced communities. This situation illustrates a deeper dilemma. While green economic policies are designed to balance growth and sustainability (Heshmati, 2014), they cannot succeed unless the people implementing them understand and internalise environmental responsibility. Higher education, therefore, plays a vital role in shaping this kind of awareness. As Zalieniene and Pereira (2021) argue, universities do more than transmit knowledge. As argued, they should build the values and perspectives that shape future leaders' choices. Environmental concern, when taught as part of how students see their role in society, influences not just what they know but how they act, as seen in students' growing engagement with circular economy practices (Yang, Chuang, & Chen, 2024). Sustainability, in this sense, must be more than an academic topic. It must become part of the educational culture itself.

In facing the escalating demand of environmental accounting practices, accounting education stands at the centre of the challenge (IFAC, 2024). Hence, it is important that accounting education can be transformed to end the suppression of student's ethical and ecological thinking (Gray, 2013). The International Federation of Accountants (IFAC) established 2025 revision of the International Education Standards that calls for integrating sustainability into every level of accounting education encouraging students to see financial, social, and environmental issues as deeply connected (IFAC, 2025a, 2025b, 2025c). Accounting education can also develop critical thinking and ethical awareness (Cunha, Martins, Carvalho, & Carmo, 2022; Tavares, Azevedo, Marques, & Bastos, 2023).

Moreover, as the global accounting professional bodies have increasingly mandate the ESG (environmental, social and governance) practice and reporting which leads to the profession's readiness crisis (Al-Hazaima, Low, & Sharma, 2021; IFAC, 2025; Khosa et al., 2026; Vu, 2025), the curriculum adaptation remains fragmented and held back by traditional business values (Dixon, 2025; Gray, 2013; Twyford, Musundwa, Tanima, &

George,, 2024). It creates a persistent workplace rhetoric-reality gap (Wynder et al., 2013). However, prior literatures provide more about macro-level institutional barriers, stakeholder demands, and descriptive curriculum mapping (Al-Hazaima et al., 2021; Cho & Costa, 2024; Khosa et al., 2026). Further, prior studies also focus more upon a significant theoretical and empirical gap as a trigger of how accounting academics actively construct and enact the curriculum as a lived, socially situated practice (Sharma & Stewart, 2022; Twyford et al., 2024). The understanding of how educators negotiate structural and resource constraints to translate environmental risks and localized ecological crises into core accounting curriculum is still under studied. This is the important gap in the study of integrating environmental issues in accounting curriculum. By grounded to the Schatzki's site ontology and practice theory, this study purpose is to address this gap by exploring how academics' personal moral values and regional 'material arrangements' (such as localized ecological degradation) actively reshape their teleoaffective structures in transforming the curriculum design. Drawing on Schatzki's (1997, 2002) site ontology and practice theory, this study attempts to answer two key research questions: how do accounting academics in higher education construct their curriculum, and how do they internalise environmental awareness within it? In answering the research question, this study focus upon region with exceptionally high economic growth with direct expense of ecological degradation led by extraction industry. We argue that it is prominent to examine how the accounting academics in this region are adapting to the "growth-degradation paradox" condition. This study examined academics in the higher education institutions in the North Maluku region, following the research gap. This study contributes to the debate of the environmental aspects integration into the accounting curriculum as the crucial response to the current changes in accounting practice context. The academics teleoaffectivity plays vital role in internalising the environmental awareness into the accounting curriculum, regardless to many limitations in the process. Moreover, this study gives insights about the deep process of accounting curriculum construction as a social practice in critical extreme case such as in North Maluku region.

Žalėnienė and Pereira (2021) highlight that higher education plays a vital role in driving sustainability and helping societies achieve their sustainability goals. Research in this area, especially within accounting education, remains limited in scope and depth. In the accounting field, a central challenge lies in defining what accountants currently represent while envisioning what kind of professionals they should become in a changing world (Boulianne, Keddie, & Postaire, 2018). This challenge becomes even more complex when sustainability is introduced. As Al Mahameed, Riaz, Aldoob & Halari (2025) explain, sustainability in accounting education often lacks clarity and shared understanding. Similarly, Sharma and Stewart (2022) observe that sustainability concepts are frequently discussed in theory, although their integration into the learning process and curriculum design is still underdeveloped.

Studies exploring how new ideas are absorbed into accounting education suggest the importance of the people who drive this process. In other words, faculty members' experiences and qualifications strongly influence how sustainability issues are presented in the classroom. According to Al-Bukhrani and Alhawaly (2025), professional experience often has greater impact than certification. As explained, it shapes educators' perspectives on real-world accounting practices. Even with these strengths, many educators face

challenges related to limited institutional resources, workload pressures, and resistance to change (Al-Hazaima et al., 2021, 2025). External stakeholders also play a decisive role in shaping accounting education. Professional accounting bodies, for example, contribute significantly to spreading sustainability knowledge and promoting responsible practices (Sharma and Stewart, 2022). Partnerships between universities and industry, as discussed by Karanja and Malone (2022), can enhance the curriculum and strengthen students' professional competencies.

According to some authors, developing students' awareness of sustainability calls for promoting mindsets that guide daily actions rather than merely delivering theoretical knowledge (Powell & McGuigan, 2024). When students internalise sustainability as part of their thinking, they are more likely to act responsibly and make ethical choices in their professional and personal lives. Here, environmental concern becomes a key factor in shaping their trust and long-term commitment toward circular economy initiatives influencing how they perceive the value of sustainable products and practices (Yang et al., 2024). Moreover, in this process, values, empathy, and reflective thinking act as moral anchors that connect personal awareness with collective responsibility (Powell & McGuigan, 2024). Additionally, innovative teaching approaches that blend reflection with real-world experience provide stronger learning outcomes. It is because they develop both ethical sensitivity and practical competence (Al Mahameed et al., 2025; Li, 2024). It can be argued that these approaches move beyond classroom knowledge by embedding sustainability in students' daily problem-solving and decision-making processes.

We perceive that, at the institutional level, universities that actively integrate social responsibility into their culture tend to nurture graduates with stronger ethical consciousness, where awareness is demonstrated through character, moral reasoning, and professional integrity (Agustina, Meyliana, & Hanny, 2023). Gomes, Jorge and Eugenio (2021) expand on this idea by showing that embedding sustainable development within existing business school curricula does more than add new content. It transforms how teaching and learning occur. When sustainability is integrated across courses rather than treated as an isolated topic, it encourages interdisciplinary thinking, critical reflection, and a stronger connection between theory and practice. Such integration allows students to understand sustainability as part of strategic and ethical business reasoning rather than as a peripheral or compliance-driven issue. Moreover, Gomes et al. (2021) argue that this approach helps shift institutional cultures toward more socially responsible and environmentally aware mindsets, where educators themselves act as role models of sustainability practice.

Schatzki (2001) defines a practice as "a set of doings and sayings organised by a pool of understandings, a set of rules, and a teleoaffective structure." This description draws a conceptual boundary between the actor (the individual performing these doings and sayings) and the structural foundations within which those actions take place. Practices, therefore, exist through an ongoing interaction between agency and structure. According to Schatzki, this organisation of practice rests on two cognitive elements within the actor, such as 'understanding' and 'teleoaffective structures'. Understanding refers to what an actor knows, how and why things are done, while teleoaffective structures cover the goals, emotions, and normative orientations that guide action and shape what is considered meaningful or worthwhile.

Rules, however, operate differently. Unlike understandings or teleoaffective structures, explicit rules are embedded within wider organisational or institutional frameworks rather than residing purely in individual cognition. Ahrens and Chapman (2007) illustrate this through restaurant management, where market planning responsibilities, food margin targets, and regular business meetings create a structured setting for managerial decision-making. Nama and Lowe (2014) show similar structuring in investment processes, where formalised due diligence and committee-based approvals guide decisions. Tekathen (2019) extends this argument through Enterprise Risk Management systems, which establish explicit, rule-bound mechanisms that shape how risk is perceived and managed. In these examples, rules are not passive or abstract. They actively structure practice and shape how actors understand their roles and choices within organisations.

Although structures may evolve over time, Schatzki (1996) argues they are not vessels for reproducing practice. Instead, practices are reorganised as they respond to changes in entities, such as artefacts, technologies, and social conditions. In this sense, practices are dynamic, continually adjusting to new contexts. Schatzki (1996) further contends that bodily expressions, the ways people physically enact doings and sayings, are themselves socially constituted. These bodily expressions reflect ongoing interactions within broader contexts like workplaces or educational settings. Through such processes, individual cognition and social interaction become intertwined, producing behavioural patterns that develop under specific cultural and institutional conditions.

Schatzki (1996, 1997, 2001) also conceptualises teleoaffective structures as central to understanding how individuals prioritise ends and tasks within practice. They embed beliefs, emotions, and evaluative standards that define what counts as legitimate or desirable action. Participation in practices thus situates individuals within broader social environments, and the degree of incorporation depends on training, experience, and one's capacity for observation or reflection (Schatzki, 2002). Extending this view, Schatzki's site ontology (2002) positions practices within the site of the social. Site, which also means context, is the specific contexts where human coexistence occurs. These sites are not merely spatial, such as a university or a government office, but can also take the form of relational nexuses, like the development of an accounting curriculum. Each site comprises a mesh of practices and material arrangements, interlinking human activities, artefacts, and institutional routines. Over time, this mesh evolves as older practices give way to newer ones, reflecting shifts in purpose and orientation.

In essence, practices consist of interconnected doings and sayings organised by understandings, rules, and teleoaffective structures. These practices are bound together with material and social arrangements that exist within particular sites of human coexistence. Therefore, the dynamic interplay among these elements (environmental/social aspects, behaviours, actors, and institutions) produces a living structure where action, meaning, and organisation continuously shape and reshape one another.

Methods

This research is designed based upon the non-positivism paradigm, grounded upon Schatzki's site ontology and practice theory. Research Procedure in this study covers the selection of the research context, the data collection and the data analysis processes. This study's context is the curriculum development as a practice in accounting higher education

in universities. Higher education institutions in highly contradictive region, or region with “growth-degradation paradox”, face more challenges in constructing the curriculum, especially in integrating the environmental aspects (IFAC, 2024). Region with “growth-degradation paradox” reaches great economic performance through increased business activities that tend to be maintained. On the other hand, this kind of region suffers significant environmental degradations that in many cases lead to natural disasters, which makes this kind of region “environmentally challenging site”. Hence, to understand how the accounting academics construct the accounting curriculum in this highly contradictive site or context, this study examines the institutions in North Maluku region. Institutions in North Maluku region are under the jurisdiction of LLDIKTI XII Ambon according to the regulation of Minister of Education, Culture, Research and Technology number 35 in the year 2021. This regions are chosen because it represents the “growth-degradation paradox” region according to the following reasons.

First, North Maluku region has shown the most striking economic performance, which was recording an economic growth rate of 20.49 percent in 2023, as reported by the Ministry of Energy and Mineral Resources (Kementerian ESDM, 2024). Geographically, North Maluku host some of the largest nickel deposits globally, which is estimated at around 120 million tons (including 108.4 million metric tons in Obi Island) according to the Ministry of Energy and Mineral Resources (2024). Increasing investment in mining industries and smelters facilities contributes to the exceptionally high economic growth in this region (Taufikurahman, Firdaus, Ahmad, Febriani, & Permana, 2023; Kementerian ESDM, 2024).

Second, North Maluku region on the other side has suffered great environmental degradation due to the growing extraction industries. The expansion of mining operations and the construction of smelters have become major drivers of deforestation and environmental decline in the region, with profound social consequences (Walhi, 2024). Disasters such as flash flood that struck Central Halmahera that affecting over 6,000 residents (Ichi, 24 July 2024) has evident the environment vulnerability of the region. One illustration of the environmental impact is the Obi Island condition as depicted in figure 1, 2 and 3. Figure 1 depicts the island original condition with dense forest, and figure 2 and 3 disclose the dramatic degradation due to the large-scale nickel mining operations.



Figure 1. The Satellite Image of Obi Island Before The Establishment of Mining Company

Source: Mongabay websites, dated 5th April 2025

The first reason explains “the growth” side of the region. The economic growth in this region triggered by the extraction industries and the smelters. The second reason elaborates “the degradation” side that the region suffer. Both reasons create a paradox situation in North Maluku, which means the academics face a challenging situation in curriculum construction as elaborated by IFAC (2024). These reason justify the chosen region as the research context.



Figure 2. The Satellite Image of Obi Island After The Mining Company Establishment

Source: Mongabay websites, dated 5th April 2025

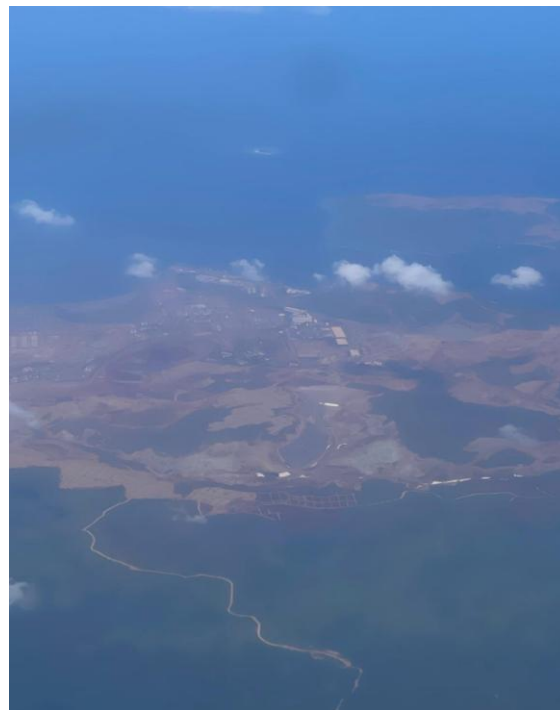


Figure 3. Self Documentation of The Obi Island After The Mining Company Establishment

Moreover, the accounting higher education in this area face great challenges due to the geographical conditions. The archipelagic conditions made academic mobility for enhancing the knowledge and collaboration amongst academic very challenging. These combined situations justify the North Maluku, the LLDIKTI XII jurisdiction, as the selected area in corresponding to the research gap explained before.

As this study focused upon the accounting curriculum construction as a practice, the data collection process includes interviews and relevant documents analysis. However, observation was not conducted since not one institutions that are in the process of constructing curriculum during the period of research. The curriculum construction process was examined through deep interviews and analysing relevant documents. This study examined higher education institutions in North Maluku are under the supervision of Higher Education Service Institution (Lembaga Layanan Pendidikan Tinggi, or LLDIKTI) region XII. Only institutions with active accreditation status that are included, since the ones with expired accreditation status do not have proper governance system that enables the curriculum construction. Amongst 12 institutions in North Maluku that have accounting undergraduate programme are under LLDIKTI XII supervision, only 10 institutions that have active accreditation status. Amongst those 10 institutions, only 6 institutions that are committed to participate in this study.

To deeply study how the curriculum practice development practice, interviews were conducted alongside with documents analysis. However, observations are only conducted to understand the region due to limited feasibility. Interviews were conducted to selected academics or lecturers from each institutions. Those are the ones involved as the curriculum development task force, which are consist of the heads of department, and the other academic members. These academics main responsible is to evaluate the existing curriculum and develop all necessary adjustments and adaptations to internal and external changes. Table 1 presents the list of institutions and informants who participated in the semi-structured interviews. These informants held strategic involvement in shaping the accounting curriculum and implementing educational policies within their institutions.

Table 1. List of Informants

Institutions Initial	Number of Informants – Initials of Informants	Position of the Informant
URA	2 persons: URA-1 and URA-2	Head of department and curriculum taskforce
RUN	1 person: RUN-1	Head of department
FIK	1 person: FIK-1	Curriculum taskforce
ERA	2 persons: ERA-1 and ERA-2	Head of departments (accounting and management departments)
YAH	2 persons: YAH-1 and YAH-2	Current and former heads of department
TEN	1 person: TEN-1	Head of department

The interviews were conducted both face-to-face and online, depending on the participants' availability and location. Each session lasted between 45 and 90 minutes and was recorded with consent for transcription purposes only. The interviews are semi-structured interviews to deeply investigate the doings and sayings during the curriculum development, which also are being cross-checked with existing institutional documents and regulations. This is important as records of the doings and sayings that were undertaken as a result of collective academics practice in engaging with the condition of North Maluku as the growth-degradation paradox region.

Apart from the interviews, institutional documents: curriculum, documents, module's lesson plan, institutional profiles and strategic plan are collected to underline the undertaken curriculum development practice. North Maluku region profiles, related

relevant regulations and other official publications from the government institutions about the region were also collected and analysed to uncover the site or the context. News and pictures are also analysed to understand the growth-degradation paradox situation of the region. All together, both the interviews and documents analysis, are necessary data to deeply uncover the academics doings and sayings when observations are limited.

Saldana (2021) states that in coding, researchers need to use their analytical lens. This research draws upon Schatzki's practice theory and site ontology as the analytical lens that guide the coding process of the collected data. Hence, codes are made to identify the practice organisation and site ontology. Codes are then grouped into categories, those are category of understanding, rules, teleoaffectivity structures, and context or site of the curriculum development practice within the university setting following Schatzki's practice and site ontology theories (2002).

The analysis was conducted upon the interview recordings and several documents about the curriculum development process and institutions profiles. The interviews are transcribed in verbatim format for coding purposes. Keywords or keyphrases are coded to unveil the curriculum development process through what the participants do and say, not as single practice but as a nexus of activities that put professional and local values and contexts into account. The coding process in this study is not limited to uncover the participants' interpretations of the curriculum development and learning processes, but more to deeply investigate the academics' doings and sayings in the curriculum development process. Hence, the interviews and documents analysis focus upon the doing and saying as a practice that is linked to the higher education and local situation contexts. In the coding process, we focused upon what the participants do and say and the reasoning of those practices. In the coding process, codes such as the curriculum change, professional expectations, peer discussions, benchmarks and post-graduate education are necessary to unravel how the participants understand about the curriculum development and what they do to gather the necessary relevant knowledge. On the other hand, code such as values, awareness, local wisdom, priority, and learning objectives are necessary to identify keywords and keyphrases that leads to the teleoaffectivity of the participants. Regulations and institutional documents were also analysed and coded to find the key points need to be undertaken during curriculum development. All the codes then grouped into categories following Schatzki's theories, which becomes the foundation of the themes or concepts of internalising the environmental awareness into the accounting curriculum. The coding process itself were aligned with the research questions to make sure that the research questions are answered accordingly.

Result and Discussions

The participants describe curriculum development as a continuous and reflective process that evolves through evaluation and collective discussion. It is a part of their professional duty to ensure that the learning process for future accountants stays relevant and responsive to new educational demands. The curriculum development itself is a regular institutional evaluation practice and is not a one-time task as underlined in the following quotations.

"We are in the process of evaluating our curriculum. Since we just graduated students [with

the existing curriculum], meaning that now we have the output [from the existing curriculum]. Now it is time to evaluate and to have the new curriculum..." [URA-1]

"We are about to change our curriculum in 2026. [The existing curriculum] is just running, and we developed it 3 to 4 years ago. We just changed it in 2020." [RUN-1]

"Our current curriculum is running since 2020. So, ... yes, it is time to evaluate it." [ERA-1]

These participants explanation were consistent with the examination of the curriculum documents elaborate the background of the curriculum development activity. Further, in conducting the process, the participants also explain and underline the external references and professional dialogue as the important resources.

"We also examine the curriculum of three other universities as a reference. And we also see that sustainability is the strongest latest issue needs to be accommodated in the curriculum." [ERA-1]

The above findings also demonstrate curriculum development as a nexus of influenced by collective sense-making within academic and professional communities practice. The use of other universities as benchmarks evidents how knowledge flows across institutions, that helps participants identify emerging themes such as sustainability. The knowledge flows across institutions shape the participants' understanding that in turn it contributes to the curriculum development practice organisation. It also created a network of interconnected doings and sayings guided by mutual understanding and common goals of the academics in keeping the learning process relevant.

Through this practice, the participants has made the curriculum design both a technical and moral practice. It involves structured routines, like scheduled reviews with deeper considerations about relevance, ethics, and social contribution. The decision the participants made to include sustainability as a new focus illustrates a teleoaffective orientation. There is a shared belief amongst the participants that accounting education should produce professionals and shape responsible citizens. Hence, the participants understanding about curriculum development is more than just administrative compliance.

Furthermore, the participants describe how professional and institutional networks shape curriculum design and reflection. These networks serve as vital spaces where knowledge, standards, and shared values circulate among accounting academics. Through them, educators gain access to professional updates, engage in continuous learning, and strengthen the link between academic and practical expertise. The participants have used the network to for enhancing the knowledge and necessary understanding that are important in curriculum development as depicted in the following quotation.

"..I still make contact with pak AH (the person from ADAI – Asosiasi Dosen Akuntansi Indonesia). ... I discussed and consulted with him regarding the curriculum, about what latest issues that emerged, what new modules or topics need to be included." [ERA-1]

It is apparent that the engagement with a professional association helps the participants to explore emerging topics and new teaching directions. The interaction with the external expertise supports the participants in undertaking the curriculum renewal, especially in integrating professional perspectives into their institutional setting.

A deeper layer of professional belonging appears in the following reflection:

"Once I have been informed to join the association (ADAI), ... and I am still (active) in the group." [ERA-1]

The participant's active membership in ADAI shows a sense of continuity in maintaining professional awareness and contributing to collective dialogue. This engagement allows academic actors to access new frameworks and experiences that keep their teaching relevant to evolving professional norms. Through this connection, curriculum development grows through an ongoing exchange of practice-based insights. The following interview quotation underline this explanation.

"We have a good relationship with Institute of Indonesia Chartered Accountants (henceforth, IAI) because most of our lecturers are members of IAI. Even the chair and secretary of IAI North Maluku Chapter are our lecturers. Hence, we will involve IAI as professional organisation in the curriculum development." [RUN-1]

The institutional links to professional associations are part of the university's practice culture. The boundary between academic and professional spheres becomes porous, allowing ideas, standards, and ethical orientations to circulate easily. This relationship helps curriculum design gains legitimacy and alignment with industry expectations, creating a bridge between classroom learning and real-world practice.

The participants embedded the environmental awareness across the accounting curriculum through a combination of specific subjects and integrated topics. Different approaches across institutions depict flexibility in curriculum design. In one approach, the sustainability and social responsibility values and concepts are infused within existing modules and did not confined to a single course, by which the environmental values are woven into the existing educational experience and objectives. The environmental content were connected across several courses:

"Some environmental issues are also included in the management accounting and cost accounting modules, and then discuss [the materials] further in a specific module called Social responsibility accounting module. ... It is a part of compulsory module in financial accounting interest. In our accounting department, students can choose one among three interests in their final year: syariah accounting, public sector accounting and financial accounting." [YAH-1]

In this approach, the environmental discussions flow from general accounting subjects into a specialised module. The integration ensures that sustainability is treated as both a technical and ethical dimension of accounting. Themes such as waste management and environmental cost control are linked to the basic concept of corporate social responsibility. These themes are both related to global and specific to the region contexts. This approach frames the environmental awareness as a part of broader logic of accounting practice, turning sustainability into a measurable and teachable concept. It blends environmental knowledge into professional accounting competencies.

On the other hand, another approach has brought environmental issues into formal learning process through dedicated subjects:

"...environmental issues and its development, waste management, and then about corporate social responsibility, how the corporation manage the environmental costs ... [all] in a

specific module." [ERA-1]

"[we have] environmental disaster education subject but with accounting perspective... it is about identifying disaster potential from accounting perspective. In this subject, the students conduct research. Students observe and identify any environmental-related events from daily activities in the society." [FIK-1]

This approach introduces an applied and context-based learning process. The subject combines environmental study with accounting analysis, allowing students to explore real-life issues through research. The course brings together observation, data interpretation, and social understanding of the real situation of their surrounding area or region, and turning sustainability into a lived practice.

In embedding the environmental issues into curriculum, local context provide significant contribution in shaping the curriculum design. Curriculum development process itself did not leave the substantial objective of creating accounting professionals.

"In our existing curriculum, our focus is about accounting professionals. We do not have a specific module for environmental accounting at the moment, but we included [the topics] as part of topics discussed in business ethic module, and then archipelagic business module, like so.... There are more local contents in archipelagic business module, especially about area like Ambon." [TEN-1]

It is apparent that the infusion of local context into main accounting and business materials is an adaptive response to institutional capacity and regional relevance. The material of archipelagic business is particularly important as it reflects an awareness of Ambon's geographical and socio-economic realities, where environmental issues are closely linked to marine ecosystems, local industries, and community livelihoods. It is also a demonstration of how the academics put the local sustainability issues as a part of environmental awareness in accounting practices.

The elaborations of the participants doings and sayings regarding the curriculum development in the previous sections explain that the process goes beyond formal institutional policies, emerging through continual learning, peer influence, and collaboration among academics and professionals. Within these practices, individual commitment and institutional learning converge, shaping a community that is both competent and responsive to environmental issues. One of our informants argued:

"Some of our colleagues took the certification regarding the corporate social responsibility [specialist].some of them are pursuing the doctoral degree in Brawijaya University. And I also took [the CSR specialist certification] too. ... Finally, [our institution] have the lecturers equipped with environmental related competency. A lot of our lecturers updated and follow the environmental issues from the news and articles. ... We also have a whatsapp group and we always communicate [and disseminate] these [environmental issues and training results] amongst colleagues." [RUN-1]

This reflection from [RUN-1] shows that environmental awareness is cultivated through shared practices of professional development. Certification programs, postgraduate study, and informal online discussions form interconnected pathways for learning and collaboration. These activities demonstrate how educators collectively construct environmental competence and integrate it into teaching and research. Such networks

exemplify what Schatzki (2002) calls “sites of practice,” where shared actions and meanings give coherence to professional identity. The informal communication platforms, such as WhatsApp groups, act as micro-spaces for continuous reflection, knowledge sharing, and reinforcement of sustainability values. Another participant extends this idea (see the next quote).

“When we took our master’s degree in Brawijaya University, we have the environmental accounting module.” [YAH-2]

This statement from [YAH-2] highlights how personal academic experiences become a foundation for institutional learning. Exposure to environmental accounting during postgraduate studies shapes how educators later approach curriculum design and classroom teaching. It shows the recursive nature of practice, where individual learning feeds back into collective pedagogical development. Through this process, sustainability values are transmitted across academic generations, ensuring their continuity in the evolving culture of accounting education. Additionally, our participant illustrates another point.

“... in our institution, [environmental accounting subject] is a pilot subject and the one who is held responsible is Mr. PN. He is currently pursuing his doctoral degree.” [ERA-1]

This insight from [ERA-1] reveals how individual initiatives can serve as catalysts for institutional change. The pilot subject represents an experimental yet strategic step toward formalising environmental content within the curriculum. The linkage between doctoral research and subject responsibility signifies how higher-level academic pursuits can directly contribute to curriculum innovation. It also underscores the role of leadership and expertise in driving collective progress.

The findings show that curriculum construction among accounting academics operates as an evolving social practice rather than a static institutional task. Academics within LLDIKTI XII view curriculum design as a collective responsibility that combines technical evaluation, professional dialogue, and ethical reflection. Their practice unfolds through cycles of review often triggered by graduate outcomes or policy updates and involves benchmarking with other universities and professional organisations such as IAI (Ikatan Akuntan Indonesia) and ADAI (Asosiasi Dosen Akuntansi Indonesia). This collaborative process associates with Schatzki’s (2001) concept of practice organisation, where understandings, rules, and goals intersect to guide purposeful action. Within this space, curriculum work becomes a living dialogue that draws legitimacy from both academic and professional expectations. The participants treat curriculum renewal as more than a procedural requirement. They frame it as a moral act that ensures relevance to societal and environmental change. The integration of sustainability topics is viewed as part of an ethical responsibility to shape accountants who are not just technically proficient but socially conscious.

Professional networks reinforce this sense of shared purpose, as academics continuously exchange ideas, certifications, and emerging knowledge through both formal and informal channels. This interconnection of individuals, institutions, and associations creates a dynamic mesh of practices. At the same time, the internalisation of environmental awareness emerges as a gradual, collective, and context-sensitive process shaped by both institutional limitations and local realities. The study finds that sustainability is not

introduced as an isolated course but rather woven through existing subjects such as business ethics, management accounting, and archipelagic business. This flexible embedding reflects what can be termed “adaptive curricular practice,” where educators integrate environmental content within available institutional structures instead of creating standalone modules. Such integration is guided by teleoaffective structures, namely shared goals, emotions, and values that connect academic work with moral commitment to environmental care.

Clearly, we document academics in Maluku and North Maluku, regions marked by intense industrialisation and ecological fragility, consciously adapt sustainability themes to local contexts, linking accounting learning with issues like resource use, community impact, and environmental risk. Beyond formal teaching, environmental awareness grows through peer learning communities, doctoral studies, professional training, and even WhatsApp discussion groups, showing that awareness circulates across material and social arrangements. These networks embody Schatzki’s notion of the “site of practice,” where individual experiences and collective learning converge to produce sustained transformation. In this way, environmental awareness becomes both an educational objective and a shared identity among academics.

The findings from this study advance theoretical debates on sustainability integration in accounting education by extending the discussion from what should be taught to how educators internalise and enact sustainability as a lived academic practice. Prior studies such as Sharma and Stewart (2022) and Simmons et al. (2024) emphasised institutional frameworks and accreditation pressures as external drivers of sustainability education, whereas the present study shows that accounting academics themselves become central agents of transformation. This perspective resonates with De Silva and Nilipour (2025), who highlight the limitations of curricula that focus only on content alignment without cultivating educators’ moral and reflective agency. Curriculum design operates through a social mesh of reflective evaluation, professional interaction, and moral conviction, an approach that goes beyond procedural compliance and embodies the dynamic interconnection between pedagogy and values. This finding reframes curriculum work as a continuous practice of negotiation among understandings, rules, and teleoaffective structures, advancing Twyford et al. (2024)’s view that the Sustainable Development Goals (SDGs) can act as mechanisms for reorienting accounting education toward social and ecological responsiveness. In this way, academics must construct meaning and legitimacy through collective reflection, and curriculum construction in environmentally fragile regions like Maluku embodies both a moral and epistemic dimension. As illustrated, teaching decisions are guided by an awareness of local ecological vulnerability and professional responsibility moving the focus from procedural curriculum reform to a living moral practice. So, this demonstrates that environmental awareness becomes inseparable from professional identity formation. It is a position that complements Mandilas et al. (2014)’s earlier call to bridge the gap between academic content and market needs by redefining “relevance” through ethical and environmental imperatives.

The findings also suggest that professional associations such as IAI and ADAI function as practice sites where academic and professional logics intersect. Rather than serving as external sources of authority, these associations form dialogic spaces through which academics and practitioners co-produce curriculum norms. This advances earlier

perspectives from Al-Hazaima et al. (2021), who treated stakeholders as sources of influence, by showing how professional networks operate as embedded sites of co-construction. Within these spaces, curriculum legitimacy emerges through the circulation of shared rules and moral understandings rather than compliance with fixed standards. Professional-institutional coupling therefore represents a distinctive theoretical contribution. It expands Schatzki's (2001) notion of rule-based practice by illustrating how rules are relationally enacted through dialogue, mentorship, and ongoing reflection. The integration of formal and informal learning communities, such as WhatsApp academic networks, further demonstrates how material and social arrangements sustain environmental awareness and transform it into a collective epistemic habit. This confirms Al-Htaybat et al. (2018), who argue that future-oriented accounting curricula must integrate digital communication practices and collaborative learning to nurture adaptive, sustainability-aware graduates. Essentially, this study extends the idea of practice sites beyond institutional boundaries (Schatzki, 2001) and shows that environmental consciousness evolves through recursive, peer-driven communication, reinforcing Twyford et al. (2024)'s observation that sustainability transformation depends on interconnected learning ecosystems rather than isolated interventions.

Interestingly, the research deepens the theoretical conversation on how environmental awareness is pedagogically embedded. In contrast to Sharma and Stewart (2022), who differentiate between standalone sustainability courses and embedded modules, this study introduces the concept of flexible curricular embedding, where sustainability themes are distributed across ethics, management accounting, and locally contextual modules such as archipelagic business. This decentralised integration redefines curriculum innovation as adaptive embedding, a living process shaped by moral-affective teleology, where environmental concern becomes a guiding purpose that connects professional ethics with local realities. Such moral teleology challenges the technical rationalism that dominates accounting pedagogy and extends Jayasinghe's (2021) constructivist framework by showing how educators construct knowledge through ethical emotion and contextual relevance. In this sense, the study enriches De Silva and Nilipour's (2025) critique that current accounting curricula often lack emotional and contextual depth, proposing instead a relational understanding of sustainability that integrates affective, cognitive, and professional dimensions of learning.

Additionally, while previous works such as Wong et al. (2021) focused on dialogic classroom approaches, the present study demonstrates how dialogic pedagogy extends into the professional life of academics themselves. Sustainability learning evolves through shared doctoral experiences, professional certifications, and informal collaboration producing recursive cycles of knowledge transfer. This recursive learning process explains how environmental awareness gains continuity across academic generations that ensure its institutional endurance even in resource-limited settings. The study expands Schatzki's (2002) concept of "social sites" by showing that learning networks operate as living ecologies of moral practice, interlinked systems that sustain both knowledge and ethical sensibility. Through these theoretical insights, the study moves beyond existing models of sustainability education to conceptualise curriculum construction as a moral, collaborative, and recursive practice that redefines what it means to educate responsible accountants in environmentally fragile economies. We believe that this point supports Twyford et al.

(2024) and Al-Htaybat et al. (2018), who argue that the future of accounting education depends on cultivating inter-professional learning ecologies that intertwine ethical sensibility, contextual awareness, and digital collaboration.

In addition, maintaining and strengthening the collaborations amongst institutions and professional bodies as the bridging arenas are recommended with putting innovation to overcome geographical condition as main consideration. The archipelagic condition requires innovative internet-based solutions to optimise this arena to help close the gap between academics and professionals and strengthening the environmental awareness amongst the accounting students. In a similar sense, related government authorities should encourage and facilitate a more formalise digital peer-learning networks as legitimate platforms for curriculum development collaboration.

Conclusion

This study concludes that environmental accounting curriculum construction represents a moral and epistemic endeavour through which educators continuously reshape meaning, relevance, and responsibility. Curriculum renewal among accounting academics in the context of current study unfolds as an evolving practice of reflection, dialogue, and collective moral purpose. This process shows how professional identity and ecological awareness intertwine creating a curriculum that functions as a living moral system within higher education. Guided by Schatzki's theory, the study conceptualises curriculum design as an organised field of understandings, rules, and teleoaffective structures that sustain the internalisation of sustainability within daily academic work. Through this interaction, educators emerge as moral agents who transform accounting education from technical compliance toward ethical engagement that allows environmental accountability to become integral to the profession's evolving purpose in ecologically fragile regions.

Although the study offers strong conceptual and empirical insights, several limitations must be recognised. First, the qualitative scope was limited to a small group of academics within the LLDIKTI XII region which restricts comparative generalisation across other Indonesian provinces or international contexts. Second, the study's reliance on self-reported reflections may introduce interpretive bias. It is because participants could frame their experiences in idealised terms. Third, though the analysis drew from institutional documents, it did not systematically triangulate classroom observation or student perspectives, which could provide deeper insight into how sustainability values are actually enacted in teaching. Fourth, the research did not analyse the quantitative impact of curriculum transformation on learning outcomes or professional competencies leaving room for empirical validation. Finally, the study did not fully explore the role of power dynamics and institutional politics in shaping curricular decisions which may influence how sustainability agendas are adopted or resisted within universities.

Based on such limitations, future studies should extend these findings through comparative and longitudinal designs that trace how environmental awareness and moral agency evolve within academic and professional communities. Mixed-method approaches combining ethnographic observation, network analysis, and impact assessment can provide a more comprehensive view of how sustainability values are enacted and transferred. Further inquiry into the interaction between policy frameworks, accreditation mechanisms, and professional associations would clarify how institutional logics sustain or reshape

sustainability practices. Moreover, researchers may also explore interdisciplinary collaborations linking accounting, environmental science, and ethical philosophy to develop richer pedagogical models for sustainability education. So, through these avenues, the field can advance toward an educational paradigm that cultivates reflective practitioners who align financial accountability with ecological and social stewardship.

References

- Ahrens, T., & Chapman, C. S. (2007). Management accounting as practice. *Accounting, Organizations and Society*, 32(1–2), 5–31. <https://doi.org/10.1016/j.aos.2006.09.013>
- Agustina, L., Meyliana, M., & Hanny, H. (2023). Constructing CSR student self-consciousness through university social responsibility implementation: Evidence in Indonesia. *Social Responsibility Journal*, 19(5), 885–905. <https://www.google.com/search?q=https://doi.org/10.1108/SRJ-05-2020-0170>
- Al-Bukhrani, M. A., & Alhawaly, K. H. S. (2025). Assimilating IFRS into Yemen's accounting curriculum: A diffusion of innovation approach to understanding adoption challenges. *Journal of Accounting in Emerging Economies*, 15(2), 333–359. <https://doi.org/10.1108/JAEE-04-2024-0163>
- Al-Hazaima, H., Low, M., & Sharma, U. (2021). Perceptions of salient stakeholders on the integration of sustainability education into the accounting curriculum: A Jordanian study. *Meditari Accountancy Research*, 29(2), 371–402. <https://www.google.com/search?q=https://doi.org/10.1108/MEDAR-02-2020-0708>
- Al-Hazaima, H., Low, M., & Sharma, U. (2025). The integration of education for sustainable development into accounting education: Stakeholders' salience perspectives. *Journal of Public Budgeting, Accounting & Financial Management*, 37(2), 296–328. <https://doi.org/10.1108/JPBAFM-06-2023-0105>
- Al-Htaybat, K., von Alberti-Alhtaybat, L., & Alhatabat, Z. (2018). Educating digital natives for the future: Accounting educators' evaluation of the accounting curriculum. *Accounting Education*, 27(4), 333–357. <https://doi.org/10.1080/09639284.2018.1437758>
- Al Mahameed, M., Riaz, U., Aldoob, M. S., & Halari, A. (2025). The implementation of sustainability practices in Arab higher education institutions. *Journal of Financial Reporting and Accounting*, 23(3), 1161–1185. <https://doi.org/10.1108/JFRA-11-2022-0415>
- Andrée, B. P. J., Chamorro, A., Spencer, P., Koomen, E., & Dogo, H. (2019). Revisiting the relation between economic growth and the environment: A global assessment of deforestation, pollution, and carbon emission. *Renewable and Sustainable Energy Reviews*, 114, 1–16. <https://doi.org/10.1016/j.rser.2019.06.028>
- BBC. (2024). Tiga Hari Minum Air Hujan: Banjir Bandang Melanda Halmahera Tengah, Murni Akibat Cuaca atau Aktivitas Pertambangan Nikel? <https://www.bbc.com/indonesia/articles/c51yr5v3104o> (accessed 31 January 2025).
- Boulianne, E., Keddie, L. S., & Postaire, M. (2018). (Non) Coverage of sustainability within the French professional accounting education programme. *Sustainability Accounting, Management and Policy Journal*, 9(3), 313–335. <https://doi.org/10.1108/SAMPJ-09-2017-0119>
- Cunha, T., Martins, H., Carvalho, A., & Carmo, C. (2022). Not practicing what you preach: How is accounting higher education preparing the future of accounting? *Education Sciences*,

- 12(432), 1–17. <https://doi.org/10.3390/educsci12070432>
- Dang, H. H., & Serajuddin, U. (2020). Tracking the sustainable development goals: Emerging measurement challenges and further reflections. *World Development*, 127, 1–20. <https://doi.org/10.1016/j.worlddev.2019.05.024>
- De Silva, T. A., & Nilipour, A. (2025). Is the accounting curricula keeping up with sustainability development? *Accounting Education*, 34(4), 470–498. <https://doi.org/10.1080/09639284.2024.2351951>
- Gomes, S. F., Jorge, S., & Eugenio, T. (2021). Teaching sustainable development in business sciences degrees: Evidence from Portugal. *Sustainability Accounting, Management and Policy Journal*, 12(3), 611–634. <https://doi.org/10.1108/SAMPJ-10-2019-0365>
- Gray, R. (2013) Sustainability and Accounting Education: The elephant in the classroom, *Accounting Education: An International Journal*, 22(4), pp. 308–332. <https://doi.org/10.1080/09639284.2013.817795>
- Heshmati, A. (2014). An empirical survey of the ramifications of a green economy. *IZA Discussion Paper No. 8078*.
- Ichi, M. (2024). Banjir melanda kawasan industri nikel Weda, WALHI: Aktivitas tambang jadi penyebabnya. *Mongabay*. <https://mongabay.co.id/2024/07/24/banjir-landa-kawasan-industri-nikel-weda-walhi-aktivitas-tambang-jadi-penyebabnya/> (accessed 2 February 2025).
- International Federation of Accountants. (2024). *Educating Accountants for a Sustainable Future – A Literature review of competencies, educational strategies, and challenges for sustainability reporting and assurance*. (2024).
- International Federation of Accountants. (2025). *International Education Standard 2: Initial Professional Development – Technical Competence* (2026).
- International Federation of Accountants. (2025). *International Education Standard 3: Initial Professional Development – Professional Skills* (Revised).
- International Federation of Accountants. (2025). *International Education Standard 4: Initial Professional Development – Professional Values, Ethics and Attitudes* (Revised).
- Jayasinghe, K. (2021). Constructing constructivism in management accounting education: Reflections from a teaching cycle with innovative learning elements. *Qualitative Research in Accounting & Management*, 18(2), 282–309. <https://doi.org/10.1108/QRAM-05-2020-0067>
- KPMG. (2026). Closing the sustainability valuation gap: Why quantification is the missing link.
- Karanja, E. and Malone, L.C. (2022). The role of industry and academia partnership in improving project management curriculum and competencies. *Journal of Economics and Administrative Sciences*, 38(4), pp. 667–691. <https://doi.org/10.1108/JEAS-12-2020-0200>
- Kementerian Energi dan Sumber Daya Mineral. (2024). *Berkat Hilirisasi, Pertumbuhan Ekonomi Maluku Utara Tahun 2023 Menjadi Tertinggi Dunia*. <https://www.esdm.go.id/id/media-center/arsip-berita/berkat-hilirisasi-pertumbuhan-ekonomi-maluku-utara-tahun-2023-menjadi-tertinggi-di-dunia> (accessed 31 January 2025).
- Khosa, A., Wilkin, C. & Pandey, R. (2026). Introducing climate-related sustainability into accounting curricula: Legitimacy and institutional entrepreneurs. *The British*

- Accounting Review*, <https://doi.org/10.1016/j.bar.2026.101871>.
- Lembaga Layanan Pendidikan Tinggi Wilayah XII. (2023). *Laporan Kinerja atas Akuntabilitas Kinerja Instansi Pemerintah*.
- Lembaga Layanan Pendidikan Tinggi Wilayah XII. (2026). Profil LLDIKTI Wilayah XII. <http://lldikti12.id/profil/> (accessed 23rd August 2026).
- Li, X. (2024). Innovative integration of sustainable technologies in education programmes: Fostering freshwater production and environmental preservation awareness. *Heliyon*, 10, 1–16. <https://doi.org/10.1016/j.heliyon.2024.e37978>
- Mandilas, A., Kourtidis, D., & Petasakis, Y. (2014). Accounting curriculum and market needs. *Education+ Training*, 56(8/9), 776–794. <https://doi.org/10.1108/ET-12-2013-0138>
- Nama, Y., & Lowe, A. (2014). The ‘situated functionality’ of accounting in private equity practices: A social ‘site’ analysis. *Management Accounting Research*, 25, 284–303. <https://doi.org/10.1016/j.mar.2014.06.001>
- Powell, L., & McGuigan, N. (2024). Looking within: Cultivating compassion for shaping the sustainable mindset in accounting education. *Meditari Accountancy Research*, 35(5), 1787–1808. <https://doi.org/10.1108/MEDAR-07-2023-2082>
- Saldana, J. (2021). *The coding manual for qualitative researchers 4th ed.*, SAGE publications Ltd.
- Schatzki, T. R. (1996). *Social Practices: A Wittgensteinian Approach to Human Activity and the Social*. Cambridge University Press.
- Schatzki, T. R. (1997). Practices and actions: A Wittgensteinian critique of Bourdieu and Giddens. *Philosophy of the Social Sciences*, 27(3), 283–308.
- Schatzki, T. R. (2001). Practice mind-ed orders. In T. R. Schatzki, K. K. Cetina, & E. von Savigny (Eds.), *The Practice Turn in Contemporary Theory* (pp. 50–63). Routledge.
- Schatzki, T. R. (2002). *The Site of the Social: A Philosophical Account of the Constitution of Social Life and Change*. The Pennsylvania State University Press.
- Sharma, U., & Stewart, B. (2022). Enhancing sustainability education in the accounting curriculum: An effective learning strategy. *Pacific Accounting Review*, 34(4), 614–633. <https://doi.org/10.1108/PAR-02-2021-0029>
- Simmons, V., Serafin, A., Stampone, A., & Rayeski, L. A. (2024). Integrating ESG into the accounting curriculum: Insights from accounting educators. *Issues in Accounting Education*, 39(2), 85–106. <https://doi.org/10.2308/ISSUES-2022-080>
- Ssekibaala, D. S., Ariffin, M. I., & Duasa, J. (2022). Economic growth, international trade, and environmental degradation in Sub-Saharan Africa. *Journal of Economics and Development*, 24(4), 293–308. <https://doi.org/10.1108/JED-05-2021-0072>
- Taufikurahman, M. R., Firdaus, A. H., Ahmad, T., Febriani, D. A., & Permana, A. S. (2023). The impact of mining sector investment on national and regional economic performance. *INDEF Policy Brief No. 07/2023*.
- Tavares, M. C., Azevedo, G., Marques, R. P., & Bastos, M. A. (2023). Challenges of education in the accounting profession in the era 5.0: A systematic review. *Cogent Business and Management*, 10(2), 1–30. <https://doi.org/10.1080/23311975.2023.2220198>
- Tekathen, M. (2019). Unpacking the fluidity of management accounting concepts: An ethnographic social site analysis of enterprise risk management. *European Accounting Review*, 28(5), 977–1010. <https://doi.org/10.1080/09638180.2019.1575759>
- Twyford, E. J., Musundwa, S., Tanima, F. A., & George, S. (2024). Bridging the gap: Sustainable

- development goals as catalysts for change in accounting education and society. *Meditari Accountancy Research*, 32(5), 1758–1786. <https://doi.org/10.1108/MEDAR-02-2024-2375>
- Uddin, M. (2021). Revisiting the impact of economic growth on environmental degradation: New evidence from 115 countries. *Environmental and Ecological Statistics*, 28, 153–185. <https://doi.org/10.1007/s10651-020-00479-9>
- Vu, T.M.T. (2025). Integrating ESG and sustainability reporting into accounting curriculum: A step toward responsible education. *Educational Process: International Journal*, 17, e2025400, <https://doi.org/10.22521/edupij.2025.17.400.2013>
- Walhi. (2024). *Bencana ekologis terjadi: WALHI Maluku Utara meminta aktivitas pertambangan di lokasi banjir dihentikan*. <https://www.walhi.or.id/bencana-ekologis-terjadi-walhi-maluku-utara-meminta-aktivitas-pertambangan-di-lokasi-banjir-dihentikan> (accessed 10 January 2025).
- Wong, A., George, S., & Tanima, F. A. (2021). Operationalising dialogic accounting education through praxis and social and environmental accounting: Exploring student perspectives. *Accounting Education*, 30(5), 525–550. <https://doi.org/10.1080/09639284.2021.1919531>
- Wynder, M., Wellner, K. & Reinhard, K. (2013). Rethoric or reality? Do accounting education and experience increase weighting on environmental performance in a balanced scorecard. <https://doi.org/10.1080/09639284.2013.817802>
- Yang, C. H., Chuang, M. C., & Chen, D. F. (2024). Role of higher education students' environmental awareness and environmental concerns in the purchase intention of circular economy products. *Sustainability*, 16(1979), 1–15. <https://doi.org/10.3390/su16051979>
- Žalėnienė, I., & Pereira, P. (2021). Higher education for sustainability. *Geography and Sustainability*, 2, 99–106. <https://doi.org/10.1016/j.geosus.2021.05.001>