Eco-consciousness, Sustainability and Business Schools: Students' Perspectives and Proposed Practices for the Future

Kleio Akrivou[1]

Mona Ashok[2]

Emmanouil Platanakis[3]

Dimitrios Stafylas[4]

Charles Sutcliffe[5*]

July 2025

1. Henley Business School, Leadership, Organisations, Behaviour and Reputation Department, University of Reading, Reading, RG6 6UD, England. ORCID: https://orcid.org/0000-0003-2212-6280. Email: k.akrivou@henley.ac.uk

2. Henley Business School, Digitalisation Marketing and Entrepreneurship Department, University of Reading, Reading, RG6 6UD, England. ORCID: https://orcid.org/0000-0002-9827-9104. Email: m.ashok@henley.ac.uk

3. University of Bath, School of Management, Bath, BA2 7AY, England. ORCID: https://orcid.org/0000-0003-1493-6339. Email: E.Platanakis@bath.ac.uk

4. School for Business and Society, University of York, York, YO10 5GD, England. https://orcid.org/0000-0002-0326-1877. Email: dimitrios.stafylas@york.ac.uk

5. The ICMA Centre, Henley Business School, University of Reading, Reading, RG6 6DL, England. ORCID: https://orcid.org/0000-0003-0187-487X. Email: c.sutcliffe@icmacentre.ac.uk

*Corresponding author. The authors are in alphabetical order.

Acknowledgements: The authors are grateful to the administrators in the three business schools involved for their support in sending the survey emails and reminders to all the students, in line with anonymity, confidentiality and informed consent ethics.

Eco-consciousness, Sustainability and Business Schools: Students' Perspectives and Proposed Practices for the Future

Abstract

As global climate challenges escalate, embedding eco-consciousness and sustainability in business school curricula has become increasingly urgent. This study investigates the perceptions of environmental sustainability among business and management students across three UK universities, examining the belief-based (personal values) and experience-based (curriculum integration) drivers that shape their motivation and confidence in implementing sustainability in future business practices. We employ a mixed-methods approach, which combines Partial Least Squares Structural Equation Modelling (PLS-SEM) with thematic analysis of open-ended responses from a large sample of students. We find that perceived sustainability relevance and integration have a significant influence on students' future motivation and confidence. Perceived sustainability value does not directly enhance confidence but positively impacts motivation. The qualitative insights reveal nuanced concerns about greenwashing, powerlessness in corporate environments, and a desire for experiential, embedded, and values-aligned learning. We propose actionable educational practices that strengthen eco-conscious capabilities through reflective, interdisciplinary, and real-world learning. This study contributes novel empirical evidence from a multi-institutional UK context and offers a theory-informed model of student readiness for sustainable management. We call for a policy shift in business education, towards curriculum-wide integration of sustainability, institution-wide eco-culture, and student agency in shaping a regenerative business future.

Keywords: Business management education; climate education; eco-consciousness; PLS-SEM; sustainability; thematic analysis

JEL Classification: A20; A22; A23; I23

Introduction

In the past decade, sustainability has gained momentum and attention among business schools and educators alike in and across curricula, following the global implementation of the Principles of Responsible Management Education (PRME), which has been actively endorsed by governments, businesses, and other actors such as business schools who are signatories of the PRME. Within the broad sustainability agenda, distinct attention to climate change and its embeddedness in (higher) education came to the forefront following the UN Climate Change conference – COP 28, and UNESCO 2017. While this demonstration of commitment to the planet's future and its ecosystem is evident, the integration of eco-consciousness into business schools' broader sustainability and ethics curricula and practices still requires further research.

Environmental disasters and significant climate change indicators vividly highlight the harsh consequences of current managerial practices (Rotta et al., 2020; Matos et al., 2022; Kuldova and Nordic, 2024).[1] The significance of these, and the urgency of planetary deterioration due to climate change across developed and less developed economies alike pose an urgency, which is a call to understand better how to equip future managers and professionals with the knowledge and capabilities to ensure business practices and decisions have a favourable, non-harmful climate and ecosystem impact. While business schools' strategies and curricula are adapting, it is worthwhile to understand how current students perceive the incorporation of eco-consciousness and, more broadly, sustainability in their studies.

In this study, we primarily focus on perceptions of eco-consciousness and awareness of environmental aspects related to sustainability in the curriculum. Additionally, we explore the broader integration of sustainability in the curriculum based on students' perceptions. We consider *sustainability* to be a broad body of knowledge encompassing the relationships between

[1] Examples of environmental disasters are the Ivory Coast's toxic waste dumping, the Atlantic hurricane season, the Fundão Dam collapse in Brazil, and the Deepwater Horizon oil spill in the Gulf of Mexico. Examples of climate change indicators include rising global sea levels, Amazonian wildfires, and severe flooding in Asia and Southern Europe.

environmental, social, and economic factors (Coughlan et al., 2016), as well as the impact of human actions on these factors and how to ensure long-term well-being. It focuses on maintaining resources, reducing waste, and promoting responsible practices that meet current needs without compromising the needs of future generations. *Eco-consciousness* refers to an individual's awareness of the environmental impact of their actions, fostering behaviours to reduce harm to nature, such as using less plastic, supporting eco-friendly brands, or advocating for conservation. In summary, eco-consciousness involves an awareness of sustainability and motivates actions that promote sustainability.

We focus on business management studies, with particular attention paid to understanding students' perspectives. We aim to explore how these inform future practices guiding curricula and learning in business and management studies. We analyse a broad student survey across three universities in the UK which are known for their diverse student body, to assess the extent to which an epistemic shift is present which supports the call to develop ecologically conscious current and future managers to deal successfully with future challenges and decisions (Goworek et al., 2018). We then suggest various approaches that can be adopted to foster students' eco-consciousness and prepare them to address the pressing need for more environmentally conscious business practices.

Many stakeholders and academics are challenging the role of business schools in promoting ethics and sustainability as essential to business school studies, including the impact of business on the natural world as well as on societal and people-related aspects of sustainability. While the dominant frameworks taught in business schools are often still shaped by *traditional* unidimensional paradigms rooted in how modern thinking imposes a dualistic lens, such as the *self-interest – unselfishness* conflicting idealisation of action (Rocha and Ghosal, 2006) or the *unquestioned* vs *radical* rejection of logics promoting capitalist industrialisation, colonisation, and societal dispossession (McKeon and Berron, 2020; McLaren, 2020; Koshy et al., 2022;

Rodríguez, 2022), more needs to be done to incorporate wider ways to value and promote sustainable business management beyond these polarising positions.

The incorporation of sustainability and eco-consciousness is a challenging task, related to macro-micro (university vs. student-led) and meso-level (discipline-specific vs. holistic integration) debates (Beamond et al., 2024), which informs the approach to follow. Studies such as Setó-Pamies and Papaoikonomou's (2016) integrate and adopt holistic approaches to the integration of ethics, corporate social responsibility, and sustainability (ECSRS) into management education. Painter-Morland et al. (2016) evaluate various ways management schools implement sustainability and ethics in their curricula. While scholars such as Yuan and Zuo (2013) and Swaim et al. (2014) are generally aware of the significance of sustainability issues, it remains unclear what should be covered. For example, these scholars argue that curricula and staff development alike are often seen as less important matters compared to other issues, such as campus security for students and staff, or easy access policies for students with disabilities. Other scholars recognise the importance of sustainability in management education, but prioritise students' broader personal, moral, and judgmental capabilities (Akrivou et al., 2022; Intezari, 2015; Sternberg, 2003) as ways to develop capabilities that may enable wiser actions.

This study's data explores undergraduate and postgraduate level students (MBA and MSc) from three UK business schools that cover sustainability and offer a wide variety of courses to both home and international students. We identify barriers and motivations for adopting eco-conscious and sustainability-oriented learning and knowledge in business education, as well as the roles of business schools, industry, and students in this process. Based on our analysis, we offer recommendations for integrating eco-consciousness into academic curricula, following a discussion of theories and paradigms relevant to broader sustainability education and eco-consciousness as an important part of other subjects, or as a standalone curricular area.

Our findings show, first, that both belief-based and experience-based drivers have a significant influence on students' career motivation and their confidence in incorporating

sustainability, defined here as eco-conscious and sustainable decision-making, into their future business practices. Second, integrating sustainability themes into educational settings enhances students' perceived readiness and sustains their long-term motivation. Third, informal learning environments, such as sustainability-focused clubs and extracurricular talks, appear to amplify the impact of a formal curriculum by reinforcing the relevance and engagement with sustainability. Fourth, while perceived sustainability value alone does not directly boost students' confidence, it does contribute meaningfully to their motivation. Finally, qualitative findings further highlight students' concerns about issues such as greenwashing and their sense of powerlessness within corporate systems, while also underscoring a strong desire for experiential, embedded, and values-aligned sustainability learning.

This study makes several important contributions to the sustainability education literature by extending established theoretical frameworks, namely, the value-belief-norm (VBN) theory (Stern et al., 1999), transformative learning theory (Mezirow, 2000), and experiential learning theory (Kolb, 1984), to the context of business education. By developing and testing a model that links students' perceived value of sustainability and how well its incorporation into their courses relates to their motivation and confidence, our study demonstrates how sustainability beliefs help students feel more prepared to make sustainable decisions in their future careers. Our study reinforces the value of experiential and interdisciplinary learning approaches in building students' eco-consciousness and sustainability confidence. Practically, our study proposes actionable educational strategies that incorporate reflective and real-world learning to support the development of sustainability-ready graduates. By drawing on a diverse, multi-institutional sample from three UK universities with substantial international representation, our study offers both empirical robustness and generalisability, offering novel insights and theory-informed recommendations to strengthen sustainable management education and enhance students' long-term engagement with sustainability.

The rest of this article is organised as follows. The next section presents the related literature and the development of hypotheses. The third section presents the data and methodology used. The fourth section presents the results and discussion, and the fifth section presents the recommendations and future practices. The last section concludes our study.

Literature Review, Theoretical Foundations and Hypotheses Development

This section reviews the complexities of sustainability education and underscores the importance of student perspectives in shaping more effective teaching and curriculum enrichment strategies. It also discusses a few challenges, including constraints on integrating sustainability into business education.

The Role of Sustainability in Business Education

As suggested by Adams et al. (2011), eco-consciousness and sensitivity to climate change have been argued to be an important area of the curriculum relevant to the development of leaders who can adopt sustainable business practices and respond to the reality of climate change. Sustainability has an increasingly important role in business education, transitioning from a peripheral concern to a core curricular component following two decades of practice and research that have informed the integration of sustainability principles through dedicated courses, interdisciplinary approaches, and experiential learning opportunities.

There are strong linkages between institutions' commitment to sustainability, implementation, and signing a declaration or an initiative. It has been argued that academic leadership's commitment to ethics and sustainability is positively integrated into the curriculum and business school ethos, helping to transform the current paradigm of business (Akrivou and Bradbury-Huang, 2015). Many other studies support the integration of sustainability into business education, including a wider concern for rehumanizing business (e.g., Melé, 2024) and expanding

business students' practical wisdom beyond narrowly self-interested actions (e.g., Akrivou and Scalzo, 2020).

One of the most significant global initiatives focusing on sustainability in the curriculum is the United Nations' Principles for Responsible Management Education (UNPRME, 2024), which encourages business schools to embed responsible management in their teaching, research, and institutional strategies, thereby fostering a culture of sustainability-minded leadership. UNPRME offers a structured approach that incorporates pedagogical methods, with experimental learning as the primary pedagogy for sustainability teaching methods (Alcaraz and Thiruvattal, 2010).

Sustainability education practice varies significantly across institutions. In the past, while many programmes emphasised broader sustainability awareness, only a few emphasised the practical tools and strategic frameworks needed to implement sustainable solutions effectively (Christensen et al., 2007). The study by Del Mar Martinez-Bravo et al. (2024) determined six key actions that universities should undertake to effectively teach sustainability, ranging from active on- and off-campus experiences, promotion of students' leadership, leisure, and engagement, institutional involvement in sustainability, adapting academic programmes, and transferring professional knowledge and experience. Interdisciplinary approaches and active faculty involvement are also essential to enhancing sustainable education (Abo-Khalil, 2024).

As sustainability continues to shape the future of business, educational institutions must evolve their approaches to ensure that students both value and understand the rationale and principles of sustainability, as well as the impact of human action on the environment. Students need to be equipped with the capabilities for sustainability-informed, meaningful change, which requires a more holistic and interdisciplinary approach to business education. This approach integrates sustainability into decision-making frameworks within a long-term orientation. Some of these studies (e.g., Kopnina and Bedford, 2024) consider a more *genuine* sustainability education, where there is a need to reorient the education for sustainable development goals

(ESDG) towards an emphasis on transformative business models based on degrowth and a circular steady-state economy. Some voices, such as Gill (2021), go further and suggest that the best business schools need to address their impact on climate change, which may affect different aspects, including students' learning.

Finally, an integrated view of learning is needed for institutions. Whole Institution Approaches (WIAs) to sustainability emphasise that all learning is embedded within socio-physical contexts (Holst, 2023). The key characteristics of WIAs are grouped into five core principles, seven highly integrated areas of action, organisational structure, and critical conditions for successful implementation.[2] Regarding WIAs, Kohl et al. (2022) document that calls or offers to move toward sustainable development involve teaching about sustainability and policymaking, not just implementation.

Effective Teaching Methods and Frameworks for Sustainability

Many recent behavioural science and sustainability education theories incorporate several frameworks that promote eco-consciousness through education. Theories such as relational pedagogy for sustainability (RPS) (Beames et al., 2012), ecological citizenship theory (ECT) (Dobson, 2003; Dobson and Bell, 2005), action competence for sustainability (ACS) (Mogensen and Schnack, 2010), and socio-ecological systems theory (SEST) (Ostrom, 2009) emphasise relational interconnectedness, citizenship, and action competencies respectively for environmental responsibility and educational theory teaching. All the above theories are important in understanding different aspects of enabling eco-conscious learning.[3] A structured, deliberate approach consisting of the appropriate teaching methods and frameworks in higher education is essential for teaching sustainability.

---

[2]The five core principles are: coherence, continuous learning, participation, responsibility, and long-term commitment. The seven areas of action are: governance, curriculum, campus, community, research, communication, and capacity building.

[3] Including, but not limited to, social interaction, reflection, and value-driven behaviour, which are fundamental for fostering sustainable practices in future business leaders.

At the student (micro) level, the curriculum and pedagogical methods are deeply interconnected (Seatter and Ceulemans, 2017). Singhal et al. (2018) conducted an importance-performance analysis of various principles for management education, suggesting that case studies, expert lectures, and sustainability-focused internships produced better outcomes than other methods. Grayson (2016) documents that contemporary teaching cases provide valuable insights into the aftermath of natural disasters. Prado et al. (2020), an extension of the previous study, examined the effectiveness of simulations versus case-based methods in teaching sustainable development, highlighting the role of technology in modern education.

Other approaches, such as the classification framework based on literary genres in teaching cases, enhance cognitive and emotional learning, which is essential for managing businesses sustainably (Montiel et al., 2018). Another approach is transdisciplinary learning, emphasising diverse perspectives, exposure, student self-awareness, critical thinking, and creativity (Gröschl and Gabaldon, 2018). Simulation-based learning environments play a crucial role in fostering sustainability and eco-consciousness.[4] The above approaches extend beyond traditional teaching models, fostering interdisciplinary learning and skill development essential for Education for Sustainable Development (ESD) (Sierra, 2020). Similarly, scenario planning in management education encourages creativity while strengthening students' knowledge, skills, and abilities (Wade and Piccinini, 2020).

Using a hybrid model combining distance self-learning with face-to-face interaction is becoming increasingly standard (Lorange and Thomas, 2016). The focus is on student-centred learning enhancement pedagogies for fostering dialogue and collaboration. O'Connor and Myers (2018) highlight how case discussions, experiential learning, and guest lectures contribute to the development of responsible business leaders. Exposure to the moral philosophy of care (Heath et al., 2019) and participation in real-time, community-based projects (Dal Magro et al., 2020) have

[4] An example of bridging the industry-required skills and academic learning discrepancy is modelling energy service company ventures under varying conditions of transparency (see Capelo et al., 2021; Goi, 2019).

a positive impact on cultivating a critical and responsible approach to business. Practice-based learning and community service initiatives have also enhanced student engagement, reduced monotony, and increased satisfaction in solving real-world problems (Matzembacher et al., 2019). Other approaches, such as those grounded in ethical principles through yoga-based practices, have been proposed for students to adopt a socially responsible mindset based on a purely altruistic perspective (Dagar et al., 2022).

Previous research highlights how pedagogical approaches align with specific Sustainable Development Goals (SDGs). For example, incorporating poverty-related issues into business curricula promotes intellectual and personal growth (Neal, 2017). Ultimately, by adapting teaching methods to emphasise sustainability, educators can equip students with the holistic understanding and practical skills needed to drive meaningful change in the global business landscape. Additionally, pedagogical frameworks should incorporate systemic thinking and cross-cutting themes, such as global value chains and cross-cultural management, to ensure an impactful learning experience. Finally, transformational or transformative learning has gained increased interest as a way of conceiving and practising educational forms for a deeper understanding of issues (Janssens et al., 2024).[5]

To ensure high-quality education in sustainability, the adaptation of consequences, reflection on achievements and shortcomings, and evaluation of the adequacy of degree-specific competencies have been proposed to improve global sustainability (Wiek et al., 2011). Another perspective, by Rodenburg and MacDonald (2021), focuses on curriculum planning and design, promoting the examination of key influencers of ethical orientation and attitudes towards the

[5] In the context of sustainable entrepreneurs, Ploum et al. (2018) find that the inclusion of six cognitive competencies (e.g., strategic management and action competence, diversity competence, systems thinking competence, normative competence, foresight thinking competence, and interpersonal competence) constitutes a competence framework with a good model fit. Barth et al. (2007) find that the development of key competencies is based on both cognitive and non-cognitive dispositions, and competency development can be enhanced through formal and informal learning settings.

environment. This is the first stage in developing both the environmental sensibilities and ethical decision-making of students within business schools.[6]

Challenges in Embedding Sustainability in Business Schools

Despite growing awareness, challenges persist in integrating sustainability into business education. Bessant et al. (2015) identify a range of challenges and opportunities for advancing sustainability in higher education within the so-called neoliberal context. They explore the relationship between neoliberalism and new public management (NPM), which governs the behaviour of students, individual academics, departments, and institutions. Neoliberalism and NPM operate in opposite directions, driving and limiting the sustainability education agenda. Some of the effects of neoliberalism/NPM on higher education are that (*i*) universities are more businesslike and managerialist, (*ii*) there is a focus on output efficiency, financial control, and strategic planning, (*iii*) there is more interaction with business, and the commercial/corporate sector, (*iv*) the relationships are defined in business terms - for instance, service providers, and customers.

Some challenges also include ensuring a widespread understanding and engagement among participating institutions of the Sustainable Development Goals (Haertle et al., 2017). Another challenge is the availability of faculty with the relevant expertise. Thorpe and Rawlinson (2014) document that there is a limited focus on addressing sustainability challenges, such as maintaining agendas and institutional development. Financial and resource challenges can significantly impact institutions' sustainability engagement. Kriewaldt and Lee (2023) suggest that a lack of a deep understanding and misconceptions about the causes of climate change can pose a significant challenge. To alleviate this problem, higher education institutions should assist

[6] An important issue in the transition to sustainable development is the implementation process within higher education institutions. Weiss et al. (2021) document several curriculum implementation patterns, with key influences including motivation for change, communication, sense of ownership, seeking collaboration with stakeholders, and coordinating the resources.

teachers in enhancing their knowledge and understanding of sustainability education. Moreover, faculty attitudes toward sustainability education can also impact their practice, beyond cognitive understanding (Tomas et al., 2017).

The incomplete incorporation of sustainability principles into campus operations might also be a challenge. Saha et al. (2021) find that carbon emissions and audits have a positive relationship with the reputation of higher education institutions. Finally, potential inconsistencies in selecting between various terminologies relevant to sustainable development goals, such as social responsibility, corporate social responsibility (CSR), sustainability, well-being, and ethics, may be problematic for some academic curricula, e.g., marketing (Hopkins et al., 2021; Brocato et al., 2022; Rosenbloom, 2022).

Students, Sustainability and Eco-consciousness

Since students are among the most significant stakeholders within universities, their perceptions and opinions carry significant weight in informing sustainability education and ongoing research. Early studies (e.g., Holt, 2003) suggest that dedicated, subject-specific sustainability learning experiences can positively impact attitudes and actions. Other studies (e.g., Chomova and Jarassova, 2020) have found that most students are concerned about climate change and want it to be reflected in their education. They regard climate change and environmental protection as the most pressing societal challenges and emphasise the need for sustainable development-informed curricula. Environmental issues, such as campus security and accessibility for students with disability, are also emphasised (Yuan and Zuo, 2013).

Erskine and Johson (2012) examine undergraduate students' views of different learning approaches to teaching sustainability. They favour sustainability-related scholarships, integrating sustainability into various classes, internships related to sustainable business practices, and sustainability-related business simulations in the class. Zeegers and Clark (2014) found that

focusing on student engagement, interaction with topics, and reflection on personal learning is key to offering a balanced perspective on sustainability.

Students acknowledge the importance of sustainability, but their engagement levels vary depending on their personal values, career ambitions, and the perceived relevance of sustainability to their future professional roles. This is evident because teaching the business aspects of sustainability can be ineffective without understanding the students' personal sustainability attitudes, intentions, and behaviour (Swaim et al., 2014). Essential factors contributing to students' self-perceived sustainability behaviour at the end of their studies include their sustainability behaviour at the beginning of their studies, being female, studying sustainability, and self-perceived sustainability knowledge (Sammalisto et al., 2016).

Subjective and personal norms, as well as motivations, can significantly influence students' intentions to engage in academic activities. Additionally, there is also two-way causation, with sustainability education significantly influencing subjective and personal norms (Baber et al., 2024). Attitudes are guided by value priorities, which are informative when customising sustainability teaching, especially for business students. Bask et al. (2020) find that business students' attitudes to sustainable development are more favourable than those of nationwide samples. This finding aligns with Bernaciak et al. (2021), who find that each group of students has its characteristics regarding environmental awareness. The most significant similarities exist between medical, natural science, and social science students, while science and humanities students differ significantly. This result aligns with Hyytinen et al. (2023), who found that students' perceived value of sustainability competencies and having a pro-ecological worldview differ across fields of study. Ng and Burke (2010) examined students' characteristics to predict their attitudes toward sustainable business practices. They found that personal values, individualism-collectivism, and leadership styles are predictors of a more positive attitude toward sustainable business practices.

The relationship between sustainable behaviour and university students' knowledge was examined by Heeren et al. (2016). They investigated whether the assumptions of the knowledge deficit model (i.e., that knowledge leads to increased engagement in sustainable behaviour) can be integrated into the theory of planned behaviour (see Ajzen, 1991). Their finding (Heeran et al., 2016) is that knowledge about sustainability does a poor job of predicting the extent to which students engage in sustainability-related behaviour. Instead, other social and psychological components, mainly perceived behavioural control (Ajnen et al., 2011), are a much stronger predictor of behaviour.

Other studies, such as Perrault and Clark (2018), have examined the components of fear appeal theory (the extended parallel process model) to predict sustainability behavioural patterns by uncovering students' motivations and attitudes. Information on the threats to sustainability was insufficient to create behavioural intentions, as knowledge of the effectiveness of responses to the threats was also needed. Personal sustainable behaviour is important, but the environmental impact will lead to only a marginal collective improvement. Instead, what is needed are ambitious changes from governments and organisations that shape how various products are made, consumed, and operated (Thøgersen and Crompton, 2009).

The dynamic nature of students' worldviews is complex as it relates to educational influences and changes in student perception. For instance, Shephard et al. (2015) employed a longitudinal analysis to examine whether institutional educational efforts concerning sustainability align with changes in students' attitudes. They find that educational institutions can benchmark the sustainability attitudes of their students and then monitor changes. A quasi-experimental approach was adopted by Sidiropoulos (2018) to investigate the influence of sustainability education on students' views, attitudes, and behaviour, whereby students exposed to sustainability education reported a positive shift in their attitudes toward and perceptions of sustainability. Speer et al. (2020) found that over time, each incoming student cohort demonstrated increasing concern about environmental harm, and this concern persisted throughout their studies.

These previous research outputs suggest that, as students become more knowledgeable about sustainability issues and the environment, they also become more concerned about the (negative) implications for the environment of human activities.[7]

Hypotheses

Based on the previous discussions, we consider belief-based drivers (students' attitudes, beliefs, and values), and current educational experience-based (students' perceived sustainability integration) drivers to explore two essential future outcomes: students' motivation to integrate sustainability and eco-consciousness into their future practice, and their confidence to do so. In particular, the first pair of hypotheses examines the perceived importance (value) of sustainability in student career motivation and confidence in incorporating eco-consciousness and sustainability into business decisions:

> ***H1a:*** *Students who value sustainability as important to business today are more likely to consider it important in their future career decisions.*
>
> ***H1b:*** *Students who value sustainability as important to business today are more likely to feel confident in incorporating eco-consciousness and sustainability into future business decision-making.*

The second pair of hypotheses examines the effect of the integration of sustainability in their curriculum on their career motivation and confidence in incorporating sustainability and eco-consciousness into business decisions:

> ***H2a:*** *Students who perceive sustainability as well-integrated into their current degree course (studies) are more likely to consider it important in their future career decisions.*

[7] Vilcapoma-Malpartida et al. (2023) examined students' perspectives of environmental awareness ranging from medium to high. Despite their willingness to support environmental awareness, students were demotivated by the lack of societal support. Using the new ecological paradigm (NEP) survey, Woodworth et al. (2011) and Ferguson et al. (2022) documented that introductory environmental courses can help students achieve learning goals related to sustainability and develop their ecological awareness.

H2b: *Students who perceive sustainability as well-integrated into their degree course (studies) are more likely to feel confident in incorporating eco-consciousness and sustainability into future business decision-making.*

In **Figure 1**, we present the conceptual model and hypotheses. The four variables under examination are *Perceived Sustainability Value*, *Perceived Sustainability Integration*, *Future Sustainability Motivation*, and *Future Sustainability Confidence*.

Insert Figure 1 around here

Methodology

Our research employs a structured survey, divided into five sections. The first section encompasses students' demographics, such as gender, age, nationality, and current enrolment in a particular business or management programme. The second section deals with students' attitudes toward sustainability in business education. The third section examines students' experiences with eco-consciousness in the curriculum. The fourth section examines students' perceived preparedness for sustainable management. The last section contains (optional) open-ended questions. The online survey was set up on Qualtrics, a research platform widely used in academic studies (Kutaula et al., 2025). Ethics approval was received for the survey and the research overall from all three universities.

The questions for each construct were created based on the literature review. All questions in the conceptual model used a five-point Likert-type scale. **Table 1** presents the list of constructs/latent variables, survey questions/indicators measuring these constructs, and the scales used. The survey was pilot tested with seven academics and 34 student participants across all three universities. Based on the pilot-testing feedback, two minor amendments were made: a progress bar, and a button to go back and amend answers were added. After full ethics approval by all three participating institutions, the survey was administered to the students. To eliminate social desirability and other biases, administrative teams at each of the three universities distributed

invitations to participate in the anonymous non-mandatory survey to all business school undergraduates and MSc/MBA students. Only a few general reminders were sent to avoid creating the impression of any obligation to respond to the survey. The invitation explicitly stated that there was no obligation to participate and that the survey was independent research, not linked to any student evaluation or marks. We asked for honest and accurate responses and included a lengthy participant information sheet following the informed consent section of the survey, which allowed students to exit the survey at any time.

Insert Table 1 around here

Data collection and sample size

The email questionnaire link was shared with students at three universities. All responses were anonymous, and no identifying data was collected. Survey data were collected between February 24 and June 23, 2025. Additional steps were taken to improve the response rate (Ogle et al., 2023). Considering the timing of the National Student Survey and other student commitments, the survey was left open for four months. Reminders were sent to the students every two to three weeks. In addition, a one-page flyer with a QR code linking to the survey was shared electronically, and printed copies of the flyer were displayed in the libraries of the participating universities.

Figure 2 illustrates the steps taken to clean the data and the application of partial least squares structural equation modelling (PLS-SEM). We analysed the quantitative data using our conceptual model and hypotheses, and the qualitative data via a thematic analysis of open-ended questions.

Insert Figure 2 around here

Our sample size ($n = 319$) exceeds the widely accepted thresholds for structural equation modelling and survey research, as it is above the recommended 200 for stable model estimation (Memon et al., 2020) and satisfies the high ratio regression criteria (Tabachnick et al., 2007). Specifically, 404 students took the survey, of which 36 students did not provide consent, and a further 49 students only completed the initial demographic questions. Thus, the remaining 319

responses were analysed. Using guidance from Hair et al. (2021), we determine that we meet the sample size requirements (ten responses times the maximum number of inner or outer model paths to a construct). Previous studies based on business school students had similar sample sizes (Iacovou et al., 2004; Kyando et al., 2020).

Measurement model

The survey instrument was analysed using PLS-SEM[8], a method that estimates model parameters by running a series of regressions to iteratively calculate optimal weight values for the constructs and indicators (Henseler et al., 2009; Ringle et al., 2024). Several reasons justify the appropriateness of the PLS-SEM methodology for this study. First, this is an exploratory study that involves the development of a new survey instrument, grounded in an extensive literature review. The conceptual model is novel and is being empirically tested for the first time. In this context, each construct in the model is measured using multiple observed indicators that are assumed to be caused by the underlying latent variable, rather than the other way around. Therefore, we adopt a reflective measurement model, in line with standard PLS-SEM practice for theory-building research (Hair et al., 2021).

Second, PLS-SEM is a non-parametric method that does not require assumptions about data distributions. In other words, it does not require the latent variables or data to be normally distributed, which is particularly advantageous for survey-based research in the social sciences, where non-normality is common. In contrast, covariance-based SEM requires multivariate normality to generate valid estimates and test model fit, making PLS-SEM a more flexible alternative (Hair et al., 2021).

Third, PLS-SEM is well suited for estimating complex models with multiple constructs and interrelationships. Our structural model includes four latent constructs: Future Sustainability

[8] For the implementation of PLS-SEM, we use *SmartPLS-4* statistical software. For further technical details about PLS-SEM, please see https://www.smartpls.com/documentation/algorithms-and-techniques/pls.

Motivation (FSM), Future Sustainability Confidence (FSC), Perceived Sustainability Value (VAL), and Perceived Sustainability Integration (ING). In addition, PLS-SEM is robust in handling models with multiple endogenous (dependent) variables, which is relevant in our case, as both FSM and FSC serve as dependent variables within the structural model (Henseler et al., 2009; Ashok et al., 2018; Madan and Ashok, 2024; Siddik et al., 2025).

We follow Henseler *et al.* (2009) and Hair et al. (2021) and test a reflective model. The model testing is executed in two stages. In the first stage, we test the outer measurement model, examining the constructs' convergent validity, internal consistency reliability, and discriminant validity metrics (Sarstedt et al., 2019). Once the measurement model is validated, we proceed to stage two, where we conduct a structural model analysis to evaluate the interrelationships among the constructs and rigorously test the proposed hypotheses and underlying theoretical framework.

Results and Discussion

Table 2 presents a summary of the demographic characteristics of our respondents. Just over half of the respondents were 18 to 24 years old, and under a fifth were between 25 and 34 years old. Over two-fifths of the respondents were enrolled in the undergraduate programmes, and the remaining respondents, just under three-fifths, were enrolled in the master's programmes. Three-fifths of the respondents were female students. Just under half the respondents identified themselves as white, followed by 32% who identified themselves as Asian. Approximately 11% of the respondents identified themselves as Black, African, or Caribbean. Thus, we have a broad representation of respondents to our survey.

Insert Table 2 around here

Quantitative data analysis – conceptual model and hypothesis testing

We adopt a two-stage testing approach using PLS-SEM, which involves testing the outer and inner measurement model.

Stage 1: Outer measurement model testing

Reliability and Validity of the Measurement Model

We assess the internal consistency reliability by examining both Composite Reliability (rho_c or CR) and Cronbach's Alpha (CA). Cronbach's Alpha estimates the reliability of a construct based on the intercorrelations among its indicators. At the same time, Composite Reliability provides a more accurate estimate by considering the actual loadings of the indicators. As presented in **Table 3**, for exploratory studies, values above 0.60 for both CA and CR are considered satisfactory (Hair et al., 2021). All constructs in our model exceed this threshold, indicating acceptable internal consistency reliability.

Next, convergent validity, which assesses the degree to which items measuring the same construct share a high proportion of variance, was evaluated in two ways. First, we examined construct-to-indicator loadings. These loadings represent the strength of the relationship between each observed indicator and its corresponding latent construct. According to Hair et al. (2021), loadings greater than 0.70 are considered satisfactory, suggesting that the indicator explains more variance in the construct than error. Our results meet this requirement. Second, we evaluated the Average Variance Extracted (AVE), which represents the average amount of variance that a construct captures from its indicators relative to measurement error. An AVE above the threshold of 0.50 indicates that the construct explains more than half of the variance in its indicators (ibid.). In our study, all constructs met this criterion.

Discriminant validity, which tests whether constructs that are supposed to be unrelated are indeed distinct, was assessed using two methods. First, we examined cross-loadings, which compare the loading of each indicator on its associated construct with its loadings on other constructs. Discriminant validity is established when the loading of each indicator on its intended construct is higher than its loadings on other constructs. This requirement was satisfied in our study. Second, we applied the Fornell-Larcker criterion, which states that the square root of the AVE for each construct should be greater than the highest correlation with any other construct.

Our data also meets this criterion, further supporting discriminant validity (ibid.). Third, as presented in **Table 4**, the Heterotrait-Monotrait (HTMT) values were lower than the threshold of 0.90, and the 95% confidence intervals do not include 1.00, meeting discriminant validity requirements (ibid.).

Insert Table 3 & Table 4 around here

Stage 2: Structural model testing

The results of the structural model analysis are presented in **Figure 3**, with the corresponding path coefficients summarised in **Table 5**. To ensure the reliability of the regression results, a collinearity assessment was first conducted by examining the Variance Inflation Factor (VIF) values for all predictor constructs. VIF assesses whether predictor variables in the model are highly correlated with each other, which can distort the estimated path coefficients. A commonly accepted threshold is that VIF values should be below 5 to indicate acceptable levels of multicollinearity. In our model, as presented in Table 5, all VIF values were well below this threshold, indicating that collinearity between predictors is not an issue.

****Insert Table 5 around here****

To evaluate the hypothesised structural relationships, we examined the path coefficients (i.e., the strength and direction of relationships between constructs), their statistical significance, and the coefficient of determination (R^2) for the dependent variables. The path coefficients provide insight into the strength of prediction from one construct to another within the model. The R^2 values indicate the proportion of variance in the dependent variables explained by the model.

To test the significance of these relationships, we used bootstrapping with 10,000 subsamples, a resampling technique recommended for PLS-SEM (Hair et al., 2021). Bootstrapping is a non-parametric procedure that does not rely on the assumption of normality, enabling the estimation of standard errors, confidence intervals, and *p*-values for model parameters. As explained by Ringle et al. (2024), this approach allows researchers to test the statistical significance of various model results, including path coefficients, Cronbach's alpha, and

R^2 values. The use of a large number of bootstrap subsamples (10,000) enhances the robustness and reliability of our inference.

Insert Figure 3 around here

Table 6 shows that the Perceived Sustainability Value has a positive and significant effect on Future Sustainability Motivation, β = 0.703 (p-value = 0.000). Perceived Sustainability Integration does not have a significant effect on Future Sustainability Confidence, β = 0.049 (p-value = 0.454). Perceived Sustainability Integration has a positive and significant effect on Future Sustainability Motivation, β = 0.235 (p-value = 0.000). Perceived Sustainability Value has a positive and significant effect on Future Sustainability Confidence, β = 0.651 (p-value = 0.000). The model explains 63% of the variance in Future Sustainability Motivation (R^2=0.626), deemed to have moderate to significant explanatory power, and 44% of the variance in Future Sustainability Confidence (R^2=0.441), deemed to have moderate explanatory power (Hair et al., 2021).

Insert Table 6 around here

Table 7 summarises the results of the hypotheses testing, showing that all but one of our hypotheses were supported with strong statistical significance (p-value = 0.000).

Insert Table 7 around here

Qualitative analysis of the open-ended questions

Our questionnaire comprises six open-ended questions, asking students to share their views on various aspects of sustainability and eco-consciousness education. We identify 40 themes in the student responses, which are listed in **Appendix 1**. The trade-off between short-term profits, sustainability, and societal impact is evident in many of the student responses, as is the perception that business is primarily driven by short-term profits, with support for sustainability often viewed as a form of greenwashing. There is general, although not universal, student support for sustainability, which is largely driven by an altruistic concern for present and future generations.

However, a few students also view sustainability as a smart career move. As new graduates, students often believe they will have limited power to implement sustainability in business and may be influenced by the prevailing business view of greenwashing. Students think that sustainability education should incorporate more real-world examples, case studies, field trips, debates, and talks from business leaders, and have a minimal desire for more theoretical content. Students also think that sustainability should be incorporated into all courses. These views are corroborated by student responses to a question asking if there are any changes students wish to see in how eco-consciousness and sustainability are incorporated and taught. Most students are very satisfied with how well eco-consciousness and sustainability are incorporated and taught, with very few saying the opposite. Students reaffirm that they appreciate real-world examples, case studies of the profitable pursuit of sustainability, workshops, discussions, industry speakers, and projects, as well as the inclusion of sustainability in all courses.

Appendix 2 contains a summary of the responses to the four questions, allowing multiple choices. The dominant source (46%) of values and beliefs is my values, with faith and culture being less than half as important. For learning methods, case studies were the most influential teaching method (22%), followed by traditional lectures (16%), and then sustainability and eco-consciousness integrated into other lectures (13%), problems and workshops (12%), group projects (12%), and guest lectures (12%). Students reported being exposed to a wide range of keywords, including sustainable development (11%), climate change (11%), ethical management (10%), the UN Sustainable Development Goals (9%), the triple bottom line (9%), and ethical governance (8%). The main subject specialisms of respondents were business (21%), management (18%), marketing (12%), and finance (11%).

Recommendations and Future Practices

Overall, most of the hypothesized relations are supported by our data. Present belief-based and experience-based drivers are related to students' career motivation and sustainability confidence

(incorporating eco-consciousness and sustainability) into business decisions, and students' present sustainability beliefs will influence their future actions and decisions. This means that it is beneficial for business schools to educate students about sustainability and eco-consciousness, as this allows students to appreciate its relevance. Personal belief in the relevance of sustainability increases both motivation and engagement in sustainability, which aligns with value-belief-norm theory (Stern et al., 1999). Since students' support for sustainability is primarily driven by their valuing of, and concern for, present and future generations, there is a need for intentional enrichment of both the curricula and cross-curricular learning and sensitisation in this area.

Our study supports the view that teaching eco-consciousness and sustainability should include both specific content and concepts, as well as the personal relevance of these ideas through the incorporation of experiential learning (Kolb, 2014). The latter requires teaching informed by educators' planning of learning, including the use of examples and cases, as well as the need to stimulate reflective value alignment, which fosters learning through experiential learning and reflection. Reflective portfolios related to content, or continual learning, which involves assessment and feedback, are also essential (Kolb and Kolb, 2017). Additionally, the relevance of career mapping exercises related to the sustainable development goals and roles is also important. For example, students could write reflections on how sustainability principles apply to core business modules, or after they have carried out activities (e.g., case studies and simulations), to reflect on their responses to ethical and environmental dilemmas. In terms of career pathways and roles, students could use a visual mapping tool to connect their personal values and career aspirations to specific SDGs. Hence, sustainability education should incorporate more real-world examples, case studies, field trips, debates, and talks from business leaders, with a focus on practical applications rather than extensive theory. These suggestions align with the students' responses in our study and with the suggestions of previous studies (O'Connor and Myers, 2018; Singhal et al., 2018; Prado et al., 2020).

We find that real-world engagement fosters confidence and applied understanding, aligning with experiential learning theory (Kolb, 1984) and promoting sustainable learning through integrative learning and development. Case studies should incorporate active learning, which begins with a deeper understanding of the real challenges faced locally, regionally, and globally, including an overpopulated planet, climate disturbances, and the need for renewal of natural systems, thereby highlighting the importance of sustainability (Bradbury-Huang, 2010). Learning could involve community-based consultancy projects, sustainability design sprints, and simulations. For example, students could partner with local businesses to assess their environmental impact and suggest realistic improvements (e.g., waste reduction, supply chain optimisation, etc.) or participate in role-playing sessions where students take on executive roles that balance planet trade-offs and profit under shareholder pressure. Students' responses present an awareness of the trade-off between short-term profits, sustainability, and societal issues. Through real-world active engagement exercises (see also Matzembacher et al., 2019), students will develop greater problem-solving skills. They may feel more confident or even empowered to implement sustainability in their business.

Conversational learning (Baker et al., 2002) plays a crucial role in encouraging students to participate actively in classroom activities. This includes not only participation in discussions but also learning from peers and students with different disciplinary backgrounds and, when applicable, engaging in cross-generational learning. Such collaborative approaches often involve working in syndicate groups to develop original projects, sometimes in partnerships with affected communities, to co-create initiatives that promote environmental or social impact. This process can foster empathy as part of the learning experience (Luis et al., 2023) and supports the principles of educational social innovation (Fahrenwald et al., 2021).

An additional insight is that integrating sustainability themes enhances perceived readiness and long-term motivation. This may be explained through the stimulation of hope and efficacy, which enables students to envision a better world and the pathways to achieve it (Snyder,

2002). This may also involve the transformative learning theories of Mezirow (2000). Students' responses show that sustainability should be included in all courses, and various forms (such as real examples, workshops, and guest speakers). Hence, horizontal integration of sustainability across all courses would be valuable via embedding eco-topics in business and finance courses, following an interdisciplinary approach (see also Abo-Khalil, 2024).

Faculty attitudes toward sustainability education, as influenced by participation in EfS (Education for Sustainability/Teacher Education) units, can impact their practice (Tomas et al., 2017). An insight from our study is that an informal learning environment (e.g., settings and experiences outside the formal curriculum, such as **sustainability** clubs or talks) can enhance the impact of the formal curriculum. Hence, there is a need to cultivate a sustainability-oriented campus culture (see also Saha et al. 2021). This culture refers to shared values, behaviours, and university practices that actively promote sustainability as a core priority across daily life, government, and community engagement. At a practical level, campus greening initiatives, green students' clubs, and sustainable development goals linked to extracurricular projects could facilitate this change. A university's commitment to frameworks (such as carbon net-zero goals, etc.) and sustainability embedded in strategic plans, leadership priorities, and mission statements, alongside sustainable campus operations (e.g., eco-friendly buildings and waste reduction schemes), could signal a relevant institutional commitment.

As student perceptions are crucial for refining the integration and outcomes of sustainability, there is a need to utilize feedback loops and learning analytics for continuous curriculum development. This could occur through sustainability reflection surveys and learning analytical dashboards for tracking progress in eco-literacy.

Theoretical implications

This study contributes to the sustainability education literature by extending value-belief-norm (VBN) theory (Stern et al., 1999). We introduce an empirically validated model linking value and

perceived integration to motivation and confidence, offering deeper insight into how sustainability valuing beliefs translate into future-oriented agency. Our study also reinforces the relevance of experiential learning theory (Kolb, 1984) in enhancing students' confidence in sustainability. Drawing on Bandura's (1977) Developmental Self-Valuing Theory, this research also demonstrates that valuing sustainability and eco-consciousness is relevant to relational learning. This aligns with Jensen and Wygant (1990) who highlight its importance for ethics-related learning (in our case eco-consciousness and sustainability teaching) whereby students learn moral values via association with others in the classroom and the university community/curriculum, including peers and teachers as role models, as well as from earlier life experiences that shape their qualitative values. More broadly, the importance of learning sustainability is not merely a technical object of study, but something linked to students' understanding of and valuing of themselves, others, and life more broadly (see Frankl, 1963).

While our findings confirm transformative learning theory (Mezirow, 2000) as an important theoretical approach informing eco-consciousness and sustainability education, it is not sufficient on its own. Since students expressed concerns for sustainability as an act of genuine valuing others and the ecosystem, sustainability education should not be perceived as a mere cognitive task, but rather as a shift in cognition—a relational act emerging from the personal interiority of the participating persons (Or Semper et al., 2019). This perspective informs an educational ethos that emphasizes the relational nature of persons through authentic personal and interpersonal growth, while engaging with fellow teachers, students, and communities in the context of social innovation and learning at both the personal and collective levels.

Practical and policy implications

This study contributes to the sustainability education literature by extending the value-belief-norm (VBN) theory (Stern et al., 1999) and transformative learning theory (Mezirow, 2000) to the context of business education. It introduces an empirically validated model linking value and

perceived integration to motivation and confidence, offering a more nuanced view of how sustainability beliefs translate into future-oriented agency. It also reinforces the relevance of experiential learning theory (Kolb, 1984) in enhancing students' confidence in sustainability.

Policymakers in higher education should mandate the integration of sustainability learning outcomes in business and management degree accreditation. Frameworks like the UNPRME should be operationalised through enforceable indicators linked to curriculum design, institutional strategy, and student experience. Funding bodies can incentivise cross-university experiential projects and reward demonstrable improvements in eco-conscious student outcomes. Policies that support campus-wide environmental commitments, net-zero goals, sustainable procurement, and community engagement will also reinforce classroom learning and institutional integrity.

Overall, our results are generalisable, as our sample includes student responses from three UK universities that have a high proportion of international students. We have provided recommendations and future good practices to enhance student eco-consciousness, sustainability awareness, and interest.

Conclusions

This study examines student perceptions of eco-consciousness and their awareness of environmental sustainability as embedded in business management curricula. The study also considers student views on the broader integration of sustainability themes across their degree courses. By considering the student perspective, we aim to understand how these insights can inform future pedagogical practices and curriculum development in business and management education. Drawing on data from a large-scale student survey conducted across three UK universities, each characterised by a diverse student population, our study identifies key areas for improvement. It proposes targeted strategies to enhance students' eco-consciousness and better equip them to engage with the environmental challenges facing contemporary business practices.

Our findings indicate that both belief-based and experience-based factors influence student motivation and confidence in applying sustainability principles, such as eco-conscious and responsible decision-making, in their future careers. Integrating sustainability into the curriculum enhances student readiness and long-term motivation, while informal learning deepens formal education by strengthening engagement. Although sustainability value alone does not directly increase confidence, it positively impacts motivation. Qualitative data also highlights concerns about greenwashing, limited agency in corporate settings, and a strong desire for experiential, values-driven learning.

This study contributes to sustainability education by extending key theories—VBN (Stern et al., 1999), transformative learning (Mezirow, 2000), and experiential learning (Kolb, 1984)—to the field of business education. Our model links value and perceived integration to motivation and confidence, offering insight into how sustainability beliefs support student readiness to act sustainably. We propose practical, interdisciplinary strategies to foster sustainability-ready graduates. Drawing on diverse data from three UK universities, our findings are both empirically robust and broadly applicable, offering clear recommendations to strengthen sustainability engagement in business education.

This study is limited to three UK business schools and may not fully capture cultural or institutional diversity beyond this context. Longitudinal data would allow a deeper understanding of changes in student motivation and behaviour over time. Future research could test the model across different countries, disciplines, or post-pandemic cohorts to further validate its applicability. Additionally, further work is needed to evaluate the impact of specific pedagogical interventions (e.g., design sprints, fieldwork) on eco-conscious action competence and career choices. Investigating the role of faculty attitudes and organisational readiness in scaling sustainability across institutions also warrants attention.

References

Abo-Khalil, A. (2024). 'Integrating sustainability into higher education challenges and opportunities for universities worldwide', *Helion*, 10, e29946.

Adams, C. A., Heijltjes, M. G., Jack, G., Marjoribanks, T., and Powell, M. (2011). 'The development of leaders able to respond to climate change and sustainability challenges: The role of business schools', *Sustainability Accounting, Management and Policy Journal*, *2*(1), 165-171.

Alfonso, A., Forondo-Rodríguez, F., and Simonetti, J.A. (2017). 'Perceived changes in environmental degradation and loss of ecosystem services, and their implications in human well-being', *International Journal of Sustainable Development and World Ecology*, 24(6), 561-574.

Ajzen, I., Joyce, N., Sheikh, S., and Cote, N. (2011). 'Knowledge and the prediction of behavior: the role of information accuracy in the theory of planned behavior', *Basic and Applied Social Psychology*, 33(2), 101-117.

Ajzen, I. (1991). 'The theory of planned behaviour', *Organizational Behaviour and Human Decision Processes*, 50(2), 179-211.

Akrivou, K., and Bradbury-Huang, H. (2015). 'Educating integrated catalysts: Transforming business schools toward ethics and sustainability', *Academy of Management Learning & Education*, 14(2), 222-240.

Akrivou, K., and Scalzo, G. (2020). 'In search of a fitting moral psychology for practical wisdom: Exploring a missing link in virtuous management', *Business Ethics: A European Review*, 29, 33-44.

Akrivou, K., González, M. J. F., Scalzo, G., and Rodriguez, R. M. (2022). 'Management education and interpersonal growth: a humanist transcendental-personalist perspective'. In *The Future of Management Education* (89-107). *Routledge*.

Alcaraz, J. M., and Thiruvattal, E. (2010). 'An interview with Manuel Escudero The United Nations' principles for responsible management education: a global call for sustainability', *Academy of Management Learning and Education, 9*(3), 542-550.

Ashok, M., Day, M., and Narula, R., (2018). 'Buyer (dis) satisfaction and process innovation: The case of information technology services provision', *Industrial Marketing Management*, *68*, 132-144.

Baber, H., Fanea-Ivanovici, M., and Sarango-Lalangui, P. (2024). 'The influence of sustainability education on students' entrepreneurial intentions', *International Journal of Sustainability in Higher Education*, 25(2), 390-415.

Baker, A. C., Jensen, P. J., and Kolb, D. A. (2002). '*Conversational learning: An experiential approach to knowledge creation'* (p. 68). Westport, CT: Quorum Books.

Bandura, A., and Walters, R.H. (1977). Social Learning Theory, *Prentice-Hall*s, 141-154.

Barth, M., Godemann, J., Rieckmann, M., and Stoltenberg, U. (2007). 'Developing key competencies for sustainable development in higher education', *International Journal of Sustainability in Higher Education,* 8(4), 416-430.

Bask, A., Halme, M., Kallio, M., and Kuula, M. (2020). Business Students' Value Priorities and Attitudes Towards Sustainable Development', *Journal of Cleaner Production*, 264(1), 121711.

Beames, S., Higgins, P., and Nicol, R. (2012). 'Learning outside the classroom: Theory and guidelines for practice', *Routledge*.

Beamond, M.T., Schmitz, M., Cordova, M., Ilieva, M.V., Zhao, S., and Panina, D. (2024). 'Sustainability in business education: a systematic review and future research agenda', *Critical Perspectives in International Business*, 1742-2043.

Bernaciak, A., Bernaciak, A., and Janicka, M. (2021). 'The Field of Study as a Factor Differentiating Students' Level of Environmental Awareness', *Economics and Environment*, 77(2), 144-161.

Bessant, S., Robinson, Z. P., and Ormerod, R. M. (2015). 'Neoliberalism, New Public Management and the Sustainable Development Agenda of Higher Education: History, Contradictions, and Synergies', *Environmental Education Research, 21*(3), 417–432.

Bianchi, G., Pisiotis, U., and Cabrera Giraldez, M. (2022). 'GreenComp: The European sustainability competence framework', *Publications Office of the European Union*.

Bradbury-Huang, H. (2010). Sustainability by collaboration: The SEER case. *Organizational Dynamics*, *39*(4), 335-344.

Brocato, E. D., Graul, A. R. H., Huff, J., Hu, A., and Harms, J. K. (2022). 'Understanding how stand-alone sustainability courses are taught in marketing: A global baseline analysis', *Journal of Marketing Education*, 44(3), 337-361.

Capelo, C., Pereira, R., and Dias, J. F. (2021). 'Teaching the dynamics of the growth of a business venture through transparent simulations', *The International Journal of Management Education*, 19(3), 100549.

Cars, M., and West, E. E. (2015). 'Education for sustainable society: attainments and good practices in Sweden during the United Nations Decade for Education for Sustainable Development (UNDESD)', *Environment, Development and Sustainability*, 17, 1-21.

Chan, K. M. A., Balvanera, P., Benessaiah, K., Chapman, M., Díaz, S., Gómez-Baggethun, E., and Gould, R. (2016). 'Opinion: Why protect nature? Rethinking values and the environment', *Proceedings of the National Academy of Sciences*, 113(6), 1462-1465.

Chomova, K., and Jarossova, M.A. (2022). 'Education for Sustainability in Universities Perspectives and Expectations of Students', *Economic and Social Development: Book of Proceedings*, 276-284.

Christensen, L. J., Peirce, E., Hartman, L. P., Hoffman, W. M., and Carrier, J. (2007). 'Ethics, CSR, and sustainability education in the "Financial Times" Top 50 global business schools: Baseline data and future research directions', *Journal of Business Ethics, 73*(4), 347-368.

Coughlan, P., Coghlan, D., O'Leary, D., Rigg, C., and Barrett, D. (2016). 'Supporting sustainability through developing a learning network among traditional food producers: Applications of action learning'. In *Organizing supply chain processes for sustainable innovation in the agri-food industry* (pp. 59-81). Emerald Group Publishing Limited.

Thøgersen, J., and Crompton, T. (2009). 'Simple and painless? The limitations of spillover in environmental campaigning', *Journal of Consumer Policy*, 32(2), 141-163.

Dagar, C., Pandey, A., and Ajinkya, N. (2022). 'How yoga-based practices build altruistic behavior? Examining the role of subjective vitality, self-transcendence, and psychological capital', *Journal of Business Ethics*, 175(3), 191-206.

Dal Magro, R., Pozzebon, M., and Schutel, S. (2020). 'Enriching the intersection of service and transformative learning with Freirean ideas: the case of a critical experiential learning programme in Brazil', *Management Learning*, 51(5), 579-597.

Del Mar Martinez-Bravo, M., Del las Mercedes Capobianco-Uriarte, M., Teran-Yepez, E., Marin-Carillo, G.M., and Del Pilar Casado-Belmonte, M. (2024). 'Integrating sustainability into business and management studies in higher education', *The International Journal of Management Education*, 22(1), 100939.

Dobson, A. (2003). 'Citizenship and the Environment', *Oxford University Press*.

Dobson, A., and Bell, D. (2005). 'Environmental Citizenship', *MIT Press*.

Erskine, L., and Johnson, S.D. (2012). 'Effective Learning Approaches for Sustainability: A Student Perspective', *Journal of Education for Business*, 87(4), 198-205.

Fahrenwald, C., Kolleck, N., Schröer, A., and Truschkat, I. (2021, December). 'Social innovation in education. In *Frontiers in Education* (Vol. 6, p. 761487). Frontiers Media SA.

Ferguson, T., and Roofe, C., Cook, L., Bramwell-Lalor, S., and Hordatt Gentles, C. (2022).

′'Education for Sustainable Development (ESD) Infusion into Curricula: Influences on Students' Understandings of Sustainable Development and ESD', *Brock Education Journal,* 31(2), 63–84.

Fombrun, C., and Shanley, M. (1990). 'What's in a name? Reputation building and corporate strategy', *Academy of Management Journal*, 33(2), 233-258.

Frankl, V. E. (1963). *Man's search for meaning: Revised and updated*. WW Publisher.

Gill, M.J. (2021). 'High flying business schools: Working together to address the impact of management education and research on climate change', *Journal of Management Studies*, *58*(2), 554-561.

Goi, C. L. (2019). 'The use of business simulation games in teaching and learning', *Journal of Education for Business*, 94(5), 342-349.

Goworek, H., Land, C., Burt, G., Zundel, M., Saren, M., Parker, M., and B. Lambe (2018). 'Scaling sustainability: Regulation and resilience in managerial responses to climate change', *British Journal of Management*, 29(2), 209-219.

Grayson, D. (2016). 'The BP deepwater horizon disaster: developing and teaching a business school teaching case as the crisis unfolded', *Journal of Corporate Citizenship*, 16(1), 107-118.

Gröschl, S., and Gabaldon, P. (2018). 'Business schools and the development of responsible leaders: a proposition of Edgar Morin's transdisciplinary', *Journal of Business Ethics*, 153(1), 185-195.

Haertle, J., Parkes, C., Murray, A., and Hayes, R. (2017). 'PRME: Building a global movement on responsible management education', *International Journal of Management Education*, 15(2), 66-72.

Hair, J.F., Hult, G.T.M., Ringle, C., and Sarstedt, M. (2021). 'A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM'), 3rd edition. SAGE Publications.

Heath, T., O'Malley, L., and Tynan, C. (2019). 'Imagining a different voice: A critical and caring approach to management education', *Management Learning*, 50(4), 427-448.

Heeren, A.J., Singh, A.S., Zwickle, A., Koontz, T.M., Slagle, K.M., and McCreery, A.C. (2016). 'Is sustainability knowledge half the battle? An examination of sustainability knowledge, attitudes, norms, and efficacy to understand sustainable behaviours', *International Journal of Sustainability in Higher Education*, 17(5), 613-632.

Henseler, J., Ringle, C.M., and Sinkovics, R.R., 2009. The use of partial least squares path modeling in international marketing. In *New challenges to international marketing* (Vol. 20, pp. 277-319). Emerald Group Publishing Limited.

Holt, D. (2003). 'The role and impact of the business school curriculum in shaping environmental education at Middlesex University', *International Journal of Sustainability in Higher Education*, 4(4), 324-343.

Holst, J. (2023). 'Towards coherence on sustainability in education: a systematic review of Whole Institution Approaches', *Sustainability Science*, 18(2), 1015-1030.

Hopkins, C.D., Ferrell, O.C., Ferrell, L., and Hopkins, K.H. (2021). 'Changing perceptions of marketing ethics and social responsibility in principles of marketing,' *Journal of Marketing Education*, 43(2), 244-259.

Hyytinen, H., Laakso, S., Pietikainen, J., Ratvio, R., Ruippo, R., Ruippo, L., Tuononen, T., and Vainio, A. (2023). 'Perceived interest in learning sustainability competencies among higher education students', *International Journal of Sustainability in Higher Education*, 24(9), 118-137.

Iacovou, C.L., Shirland, L., and Thompson, R.L. (2004). 'Job selection preferences of business students', *Journal of Applied Business Research (JABR)*, *20*(1).

Intezari, A. (2015). 'Integrating wisdom and sustainability: Dealing with instability', *Business Strategy and the Environment*, 24(7), 617-627.

Janssens, L., Kuppens, T., Andersson, P., and Struyven, K. (2024). 'Transformative learning in business economics education: The development of a measurement instrument to detect student perspectives', *The International Journal of Management Education*, 22(2), 100988.

Jensen, L.C., and Wygant, S.A. (1990). 'The developmental self-valuing theory: A practical approach for business ethics', *Journal of Business Ethics,* 9, 215–225.

Kohl, K., Hopkins, C., Barth, M., Michelsen, G., Dlouha, J., Razak, D.A., and Abidin Bin Sanusi, A. (2022). 'A whole-institution approach towards sustainability: a crucial aspect of higher education's individual and collective engagement with the SDGs and beyond', *International Journal of Sustainability in Higher Education*, 23(2), 218-236.

Kolb, D. A. (1984). 'Experiential Learning: Experience as the Source of Learning and Development', *Prentice Hall*.

Kolb, A. Y., and Kolb, D. A. (2017). 'Experiential learning theory as a guide for experiential educators in higher education', *Experiential Learning & Teaching in Higher Education*, 1(1), 7-44.

Kopnina, H., and Bedford, T. (2024). 'From pseudo to genuine sustainability education: ecopedagogy and degrowth in business studies courses', *Australian Journal of Environmental Education*, 40(3), 574-587.

Koshy, S., Cacho, L.M., Byrd, J.A., and Jefferson, B.J. (2022). 'Introduction', In S. Koshy, L. M. Cacho, J.A. Byrd and B.J. Jefferson (eds), *Colonial Racial Capitalism*, *Durham: Duke University Press*, 1-31.

Kriewaldt, J., and Lee, S.J. (2023). 'Towards powerful knowledge: an Australian case study of prospective teachers' knowledge and dispositions for sustainability education', *International Research in Geographical and Environmental Education,* 32(1), 35-52.

Kuldova, T. Ø., and B. Nordrik. (2024). 'Workplace investigations, the epistemic power of managerialism and the hollowing out of the Norwegian model of co-determination', *Capital and Class*, 48(3), 463-488.

Kutaula, S., Chowdhury, S., Gillani, A., Budhwar, P. S., and Dey, P.K. (2025). 'Linking HRM with sustainability performance through sustainability practices: Unlocking the black box', *British Journal of Management*, 36(2), 615-632.

Kyando, E., Okumu, J., and Kiflemariam, A. (2020). 'Assessing the Efficacy of Business Ethics Instruction on Business Students' Cognitive Moral Development in Faith-Based Institutions of Higher Learning in Tanzania', *Journal of Business & Economic Policy*, 7(4), 7-29.

Lorange, P., and Thomas, H. (2016). 'Pedagogical advances in business models at business schools–in the age of networks', *Journal of Management Development*, 35(7), 889-900.

Luis, E. O., Martínez, M., Akrivou, K., Scalzo, G., Aoiz, M., and Orón Semper, J. V. (2023). 'The role of empathy in shared intentionality: Contributions from Inter-Processual Self theory', *Frontiers in Psychology*, 14, 1079950.

Madan, R., and Ashok, M., (2024). 'Making sense of AI benefits: a mixed-method study in Canadian public administration', *Information Systems Frontiers*, 1-35.

Mang, P., and Haggard, B. (2016). 'Regenerative development and design: A framework for evolving sustainability', *John Wiley & Sons*.

Matos, A. R., da Silva, H. T., da Faria, M. C. S., Freire, B. M., Pereira, R. M., Batista, B. L., and J. L Rodrigues (2022). 'Environmental disaster in mining areas: routes of exposure to metals in the Doce River basin', *International Journal of Environmental Science and Technology*, 19(12), 12091-12102.

Memon, A. A., Ting, H., Cheah, J.-H., Thurasamy, R., Chuah, F., and Cham, T.-H. (2020). 'Sample Size for Survey Research: Review and Recommendations', *Journal of Applied Structural Equation Modeling*, 4(2).

Mezirow, J. (2000). 'Learning as transformation: Critical perspectives on a theory in progress', San Francisco: Jossey-Bass.

Matzembacher, D.E., Gonzales, R.L., and do Nascimento, L.F.M. (2019). 'From informing to practicing: Students' engagement through practice-based learning methodology and community services', *International Journal of Management Education*, 17(2), 191-200.

McKeon, N., and Berron, G. (2020). 'Introduction to 'Reclaiming democracy from below: from the contemporary state capitalist system to peoples' sovereignty', *Globalizations*, 17(7), 1241-1264.

McLaren, P. G. (2020). 'Strengthening capitalism through philanthropy: The Ford Foundation, managerialism and American business schools', *Management Learning*, 51(2), 187-206.

Melé, D. (2024). 'Business in Society: Corporate Responsibility and Sustainability'. In *The Humanistic Person-centered Company* (159-196). Cham: Springer International Publishing.

Mogensen, F., and Schnack, K. (2010). 'The action competence approach and the "new" discourses of education for sustainable development, competence, and quality criteria', *Environmental Education Research*, 16(1), 59-74.

Montiel, I., Antolin-Lopez, R., and Gallo, P. J. (2018). 'Emotions and sustainability: a literary genre-based framework for environmental sustainability management education', *Academy of Management Learning and Education*, 17(2), 155-183.

Neal, M. (2017). 'Learning from poverty: Why business schools should address poverty, and how they can go about it', *Academy of Management Learning and Education*, 16(1), 54-69.

Ng, E.S., and Burke, R.J. (2010). 'Predictor of Business Students' Attitudes Toward Sustainable Business Practices', *Journal of Business Ethics*, 95(4), 603-615.

Ogle, K.Y., Hill, J., Santen, S.A., Gottlieb, M. and Artino Jr, A.R., (2023). 'Educator's blueprint: A how-to guide on survey administration', *AEM education and training*, *7*(5), e10906.

Orón Semper, J. V., Akrivou, K., and Scalzo, G. (2019). 'Educational implications that arise from differing models of human development and their repercussions on social innovation'. In *Frontiers in Education* (Vol. 4, p. 139). Frontiers Media SA.

Ostrom, E. (2009). 'A general framework for analyzing sustainability of social-ecological systems', *Science*, 325(5939), 419-422.

O'Connor, D., and Myers, J. (2018). ‘Ignatian values in business and accounting education: Towards the formation of ethical leadership’, *Journal of Business and Educational Leadership*, 7(1), 124-136.

Painter-Morland, M., Sabet, E., Molthan-Hill, P., Goworek, H., and de Leeuw, S. (2016). ‘Beyond the curriculum: Integrating sustainability into business schools’, *Journal of Business Ethics*, *139*, 737-754.

Perrault, E.K., and Clark, S.K. (2018). ‘Sustainability attitudes and behavioural motivations of college students: Testing the extended parallel process model’, *International Journal of Sustainability in Higher Education*, 19(1), 32-47.

Ploum, L., Blok, V., Lans, T., and Omta, O. (2018). ‘Toward a validated competence framework for sustainable entrepreneurship’, *Organization & Environment,* 31(2), 113-132.

Prado, A. M. Arce, R., Lopez, L. E., Garcia, J., and Pearson, A. A. (2020). ‘Simulations versus case studies: Effectively teaching the premises of sustainable development in the classroom’, *Journal of Business Ethics*, 161, 303-327.

Riahi-Belkaoui, A. (1999). ‘Productivity, profitability, and firm value’, *Journal of International Financial Management and Accounting,* 10(3), 188-201.

Ringle, C. M., Wende, S., and Becker, J.-M. (2024). *"SmartPLS 4."* Bönningstedt: SmartPLS, https://www.smartpls.com.

Rocha, H. O., and Ghoshal, S. (2006). ‘Beyond self-interest revisited’, *Journal of Management Studies*, 43(3), 585-619.

Rodenburg, K., and MacDonald, K. (2021). ‘Enhancing business schools’ pedagogy on sustainable business practices and ethical decision-making’, *Sustainability,* 13(10), 5527.

Rodríguez, C. J. F. (2022). ‘The learning environment of managerialism: the role of business schools and consultancies in global market’. In M.M. Lucio and R. MacKenzie (eds), *International Human Resource Management: The Transformation of Work in a Global Context*, Sage, 194-212.

Rosenbloom, A. (2022). ‘Marketing scholarship and the sustainable development goals: Thoughts on moving forward’, *Australasian Marketing Journal,* 30(2), 113-118.

Rotta, L. H.S., Alcântara, E., Park, E., Negri, R.G., Lin, Y.N., Bernardo, N., Goncalves Mendes, T. S., and Souza Filho, C. R. (2020). ‘The 2019 Brumadinho tailings dam collapse: Possible cause and impacts of the worst human and environmental disaster in Brazil’, *International Journal of Applied Earth Observation and Geoinformation*, 90, 102-119.

Saha, A.K., and Dunne, T., and Dixon, R. (2021). 'Carbon disclosure, performance and the green reputation of higher educational institutions in the UK', *Journal of Accounting & Organizational Change*, 17(5), 604-632.

Sammalisto, K., Sundstrom, A., Von Haartman, R., Holm, T. and Yao, Z. (2016). 'Learning about Sustainability — What Influences Students' Self-Perceived Sustainability Actions after Undergraduate Education?' *Sustainability*, 8(6).

Sarstedt, M., Hair Jr, J.F., Cheah, J.H., Becker, J.M., and Ringle, C.M. (2019). 'How to Specify, Estimate, and Validate Higher-Order Constructs in PLS-SEM', *Australasian Marketing Journal,* 27(3): 197-211.

Seatter, C.S., and Ceulemans, K. (2017). 'Teaching sustainability in higher education: pedagogical styles that make a difference', *Canadian Journal of Higher Education*, 47(2), 47-70.

Schwartz, S. H. (1992). 'Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries', *Advances in Experimental Social Psychology*, 25, 1-65.

Schwartz, S. H. (1994). 'Are there universal aspects in the structure and contents of human values?' *Journal of Social Issues*, 50(4), 19-45.

Setó-Pamies, D., and Papaoikonomou, E. (2016). 'A multi-level perspective for the integration of ethics, corporate social responsibility and sustainability (ECSRS) in management education', *Journal of Business Ethics*, *136*, 523-538.

Shephard, K., Harraway, J., Jowett, T., Lovelock, B., Skeaff, S. Slooten, L., Strack, M., and Furnari, M. (2015). 'Longitudinal analysis of the environmental attitudes of university students', *Environmental Education Research*, 21(6), 805-820.

Siddik, A.B., Yong, L., Du, A.M., Vigne, S.A., and Sharif, A., (2025). 'Harnessing Artificial Intelligence for Enhanced Environmental Sustainability in China's Banking Sector: A Mixed-Methods Approach', *British Journal of Management*.

Sidiropoulos, E. (2018). 'The personal context of student learning for sustainability: Results of a multi-university research study', *Journal of Cleaner Production*, 181, 537-554.

Sierra, J. (2020). 'The potential of simulations for developing multiple learning outcomes: the student perspective', *The International Journal of Management Education*, 18(1), 100361.

Singhal, N., Gupta, H., and Mittal, G. (2018). 'Importance-performance analysis to identify effective learning approaches for sustainability in an Indian business school', *Vision*, 22(3), 276-283.

Snyder, C. R. (2002).' Hope theory: Rainbows in the mind', *Psychological inquiry*, 13(4), 249-275.

Speer, J.H., Sheets, V., Kruger, T.M., Aldrich, S.P., and McCreary, N. (2020). 'Sustainability survey to assess student perspectives', *International Journal of Sustainability in Higher Education*, 21(6), 1151-1167.

Sterling, S. (2011). 'Transformative learning and sustainability: Sketching the conceptual ground', *Learning and Teaching in Higher Education*, 5(11), 17-33.

Stern, P. C., Dietz, T., Abel, T., Guagnano, G. A., and Kalof, L. (1999). 'A value-belief-norm theory of support for social movements: The case of environmentalism', *Human Ecology Review*, 81-97.

Sternberg, R. J. (2003). 'Wisdom and education', *Gifted Education International*, 17(3), 233-248.

Swaim, J.A., Maloni, M.J., Napshin, S.A., and Henley, A.B. (2014). 'Influences on Student Intention and Behavior Toward Environmental Sustainability', *Journal of Business Ethics*, 124, 465-484.

Tabachnick, B.G., Fidell, L.S., and Ullman, J.B. (2007). *'Using multivariate statistics'* (Vol. 5, No. 7). Boston, MA: Pearson.

Thorpe, R., and Rawlinson, R. (2014). 'Engaging with engagement: How UK business schools could meet the innovation challenge', *Journal of Management Development*, 33(5), 470-486.

Tilbury, D. (2011). 'Education for sustainable development: An expert review of processes and learning', *UNESCO*.

Tomas, L., Girgenti, S., and Jackson, C. (2017). 'Pre-service teachers' attitudes toward education for sustainability and its relevance to their learning: Implications for pedagogical practice', *Environmental Education Research*, 23(3), 324–347.

UNESCO. (2017). Education for Sustainable Development Goals: Learning Objectives. Paris: *UNESCO*.

UNPRME. (2024) *PRME annual report 2024*. Available at https://d30mzt1bxg5llt.cloudfront.net/public/uploads/PDFs/PRME-Annual-Report-2024-FINAL.pdf (accessed 28/5/2025).

Vilcapoma-Malpartida, P., Vilcanaupa-Toralava, G., Huaman-Romani, Y., Aragon-Navarrete, R., Huaraca-Aparco, R., and Machaca-Mamani, J. (2023). 'Perspectives of Environmental Awareness in University Students', *Human Review,* 21(1), 201-213.

Wede, B., and Piccinini, T. (2020). 'Teaching scenario planning in sustainability courses: the creative play method', *Journal of Management Education*, 44(6), 699-725.

Weiss, M., Barth, M., and Von Wehrden, H. (2021). 'The patterns of curriculum change processes that embed sustainability in higher education institutions', *Sustainability Science*, 16(5), 1579-1593.

Wiek, A., Withycombe, L., and Redman, C. L. (2011). 'Key competencies in sustainability: A reference framework for academic program development', *Sustainability Science*, 6(2), 203-218.

Woodworth, B.L., Steen-Adams, M. M., and Mittal, P. (2011). 'Role of an environmental studies course on the formation of environmental worldviews: a case study of a core curriculum requirement using the NEP Scale', *Journal of Environmental Studies and Sciences*, 1(2), 126-137.

Yuan, X., and Zuo, J. (2013). 'A critical assessment of the Higher Education for Sustainable Development from students' perspectives - a Chinese study', *Journal of Cleaner Production*, 48, 108-115.

Zeegers, Y., and Clark, I. F. (2014) 'Students' perceptions of education for sustainable development', *International Journal of Sustainability in Higher Education*, 15(2), 242-253.

Figure 1: Conceptual model and hypotheses

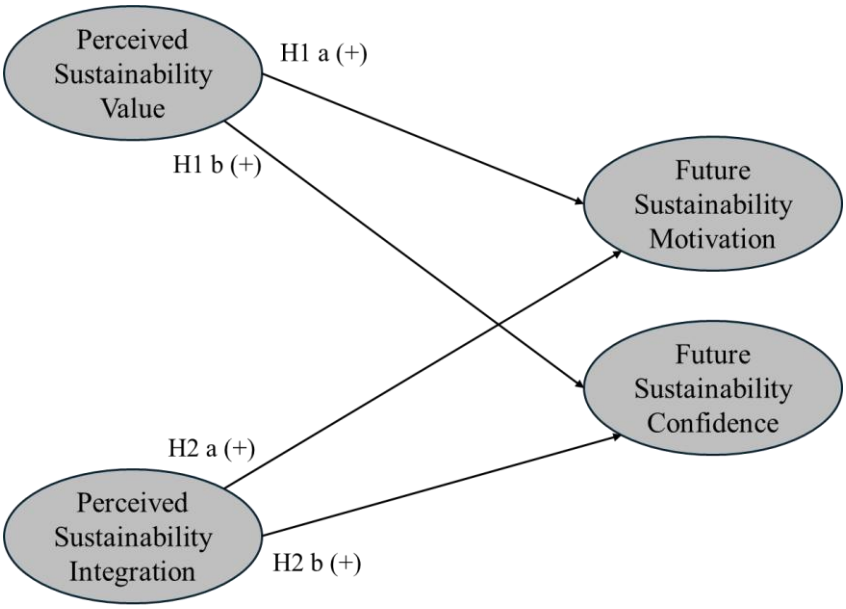

Figure 2: Steps taken for data cleaning and analysis

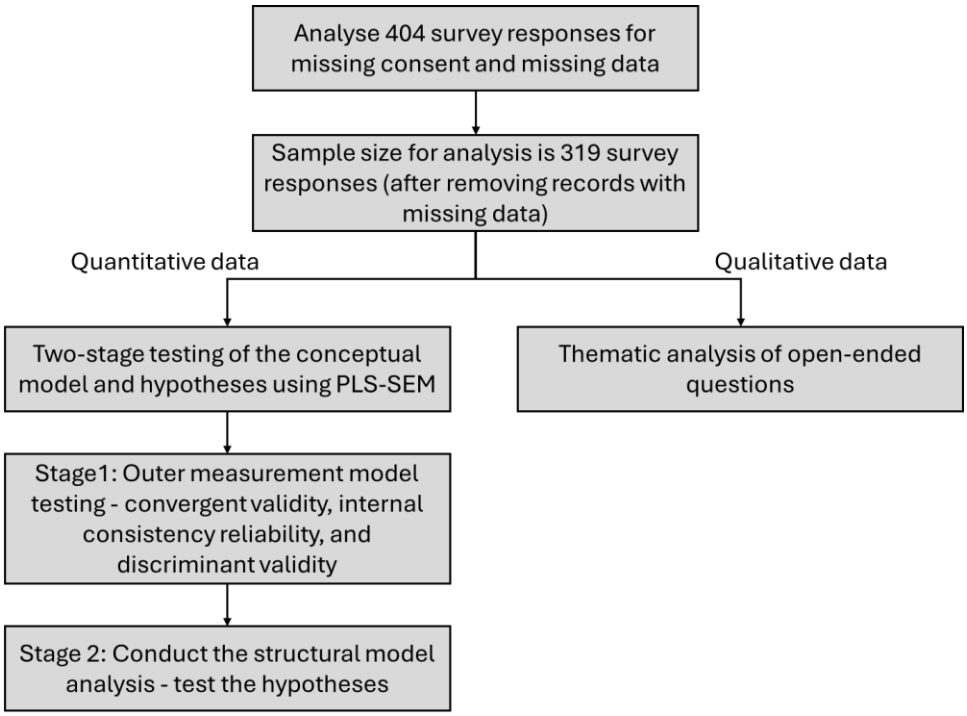

Figure 3: Structural model results: betas, *p*-values (into parentheses) and R^2's

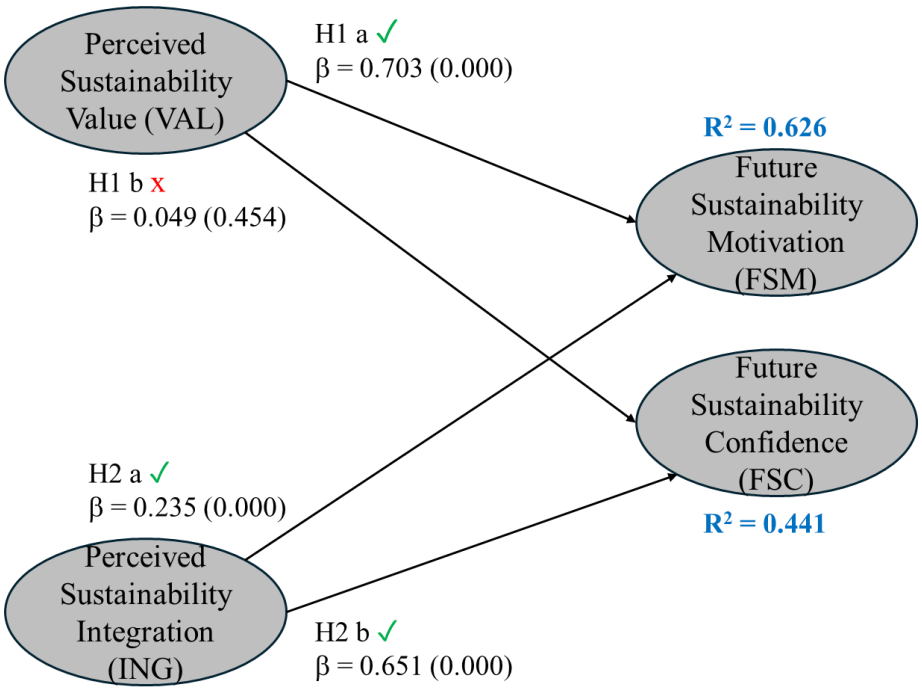

Table 1: Constructs/latent variables, survey questions and scales used in the model

Latent variable/construct	Indicator number and survey question	Likert-type Scale used
Future Sustainability Motivation (FSM)	FSM1: How important will eco-conscious and sustainability considerations be in your future career decisions?	1 – Not at all important to 5 – Extremely important
	FSM2: How motivated are you to incorporate eco-conscious and sustainable practices into your future career?	1 – Not motivated at all to 5 – Extremely motivated
	FSM3: Has your course motivated you to pursue further studies around eco-consciousness and sustainability?	1 – Not motivated at all to 5 – Extremely motivated
Future Sustainability Confidence (FSC)	FSC1: How confident do you feel in your ability to incorporate eco-conscious and sustainability practices into business decision-making based on what you've learned?	1 – Not confident at all to 5 – Extremely confident
	FSC2: Do you feel that your program of studies has prepared you to contribute to eco-conscious and sustainable practices in the workplace in your profession?	1 – Definitely not to 5 – Definitely yes
Perceived Sustainability Value (VAL)	VAL1: How important do you believe eco-conscious and sustainability practices are to business today?	1 – Not at all important to 5 – Extremely important
	VAL2: How relevant are eco-conscious practices and sustainability topics to your personal career goals in business?	1 – Not relevant at all to 5 – Extremely relevant
	VAL3: How interested are you in learning more about eco-conscious and sustainable business practices?	1 – Not interested at all to 5 – Extremely interested
Perceived Sustainability Integration (ING)	ING1: How well are eco-conscious and sustainability topics integrated into your course?	1 – Not well at all to 5 – Extremely well
	ING2: How often are eco-conscious and sustainability concepts included in your current coursework?	1 – Never to 5 – Always
	ING3: How often are you encouraged to consider the environmental impact of business decisions in your courses?	1 – Never to 5 – Always

Table 2: Demographic characteristics of respondents

Variable		Frequency	Percent
Age			
	18-24 years old	167	52.4
	25-34 years old	60	18.8
	35-44 years old	51	16.0
	45-54 years old	35	11.0
	55-64 years old	5	1.6
	65+ years old	1	0.3
	Total	***319***	***100***
Programme enrolled			
	Undergraduate programmes	137	42.9
	Master programmes	182	57.1
	Total	***319***	***100***
Gender description			
	Male	124	38.9
	Female	191	59.9
	Non-binary / third gender	3	.9
	None of the above: prefer to self-describe	1	.3
	Total	***319***	***100***
Ethnic origin description			
	White	156	48.9
	Black/African/Caribbean	34	10.7
	Asian (Indian, Pakistani, Bangladeshi, Chinese, any other Asian background)	103	32.3
	Mixed two or more ethnic groups	15	4.7
	Other (Arab or any others)	4	1.3
	Prefer not to say	7	2.2
Total		***319***	***100***

Table 3: Constructs' convergent validity, internal consistency reliability and discriminant validity

Latent variable	Indicators	Convergent Validity		Internal Consistency Reliability		Discriminant Validity	
		Loadings	AVE	Composite reliability (CR)	Cronbach's Alpha (CA)	Fornell-Larcker & cross-loading criteria met	Heterotrait-Monotrait (HTMT) criteria met
Future Sustainability Motivation (FSM)	FSM1	0.92	0.80	0.92	0.87	Yes	Yes
	FSM2	0.91					
	FSM3	0.83					
Future Sustainability Confidence (FSC)	FSC1	0.90	0.82	0.90	0.78	Yes	Yes
	FSC2	0.90					
Perceived Sustainability Value (VAL)	VAL1	0.83	0.78	0.91	0.86	Yes	Yes
	VAL2	0.91					
	VAL3	0.89					
Perceived Sustainability Integration (ING)	ING1	0.88	0.73	0.89	0.82	Yes	Yes
	ING2	0.88					
	ING3	0.79					

Note: FSM1, FSM2…, etc refer to the indicators/question numbers reflecting the latent variable/construct as presented in Table 1.

Table 4: Heterotrait-Monotrait ratio (HTMT) confidence intervals

	Original sample (O)	Sample mean (M)	2.5%	97.5%
Future Sustainability Motivation <-> Future Sustainability Confidence	0.453	0.454	0.298	0.602
Perceived Sustainability Integration <-> Future Sustainability Confidence	0.826	0.827	0.714	0.923
Perceived Sustainability Integration <-> Future Sustainability Motivation	0.484	0.485	0.346	0.613
Perceived Sustainability Value <-> Future Sustainability Confidence	0.246	0.248	0.091	0.409
Perceived Sustainability Value <-> Future Sustainability Motivation	0.870	0.870	0.799	0.932
Perceived Sustainability Value <-> Perceived Sustainability Integration	0.285	0.288	0.157	0.425

Table 5: Collinearity statistics (VIF)

Indicators	VIF
VAL1	1.797
VAL2	2.674
VAL3	2.419
ING1	2.085
ING2	2.186
ING3	1.536
FSC1	1.669
FSC2	1.669
FSM1	3.269
FSM2	3.088
FSM3	1.817

Table 6*:* Path coefficients

	Original sample (O)	**Sample mean (M)**	**Stand. deviation (STDEV)**	***t* statistics (|O/STDEV|)**	***P* values**
Perceived Sustainability Value -> Future Sustainability Motivation	0.703	0.701	0.038	18.715	0.000
Perceived Sustainability Integration -> Future Sustainability Confidence	0.651	0.653	0.049	13.188	0.000
Perceived Sustainability Integration -> Future Sustainability Motivation	0.235	0.236	0.043	5.527	0.000
Perceived Sustainability Value -> Future Sustainability Confidence	0.049	0.047	0.065	0.749	0.454

Table 7: Results of hypothesis testing

Research hypothesis	Supported
H1a: Students who value sustainability as important to business today are more likely to consider it important in their future career decisions.	*Yes*
H1b: Students who value sustainability as important to business today are more likely to feel confident in incorporating eco-consciousness and sustainability into future business decision-making.	*No*
H2a: Students who perceive sustainability as well-integrated into their current degree course (studies) are more likely to consider it important in their future career decisions.	*Yes*
H2b: Students who perceive sustainability as well-integrated into their degree course (studies) are more likely to feel confident in incorporating eco-consciousness and sustainability into future business decision-making.	*Yes*

Appendix 1: Thematic analysis of qualitative open-ended comments

Changes	Reflections	Challenges	Roles	Current trends	Motivations
What changes would you like to see in how eco-consciousness and sustainability is incorporated and taught in your business program?	*Briefly reflect on a memorable experience or lesson related to eco-consciousness and sustainability that you have had in your studies - describe how it has influenced your perspective.*	*What challenges and barriers do you see for business students in applying eco-consciousness and sustainability concepts in the real world?*	*What role do you think students, faculty and institutions should play in promoting eco-consciousness and sustainability within business education?*	*Do you feel current industry trends support eco-consciousness and sustainable practices? Why/why not in your view?*	*What motivates you mostly to adopt and incorporate eco-consciousness and sustainable practices into your future career?*
Theme 1. There was a very widespread call for more real-world examples, case studies on the profitable pursuit of sustainability, workshops, discussions, industry speakers and collaborative student projects.	Theme 1. The triple bottom line concept led to an appreciation of the trade-offs between sustainability, profit and society; or people, planet and prosperity.	Theme 1. The UN and the global frameworks are too broad and abstract, and are not sufficiently connected to every day decisions, theory, practices and business structures.	Theme 1. Students, faculty and institutions need to collaborate to promote sustainability and eco-consciousness though business school studies.	Theme 1. Eco-consciousness is increasingly part of the narrative, and regulatory and consumer forces are pushing companies in a more sustainable direction.	Theme 1. Personally witnessing the irreversible consequences of ecological neglect, and fear of a dystopian future.
Theme 2. There was a widespread request for sustainability to be included in all modules.	Theme 2. Field trips with active student involvement in environmental action (e.g. collecting micro plastics and visits to renewable energy plants) increase student appreciation of ecological damage and the immense amount of clean up work	Theme 2. New graduates lack influence in real life organisations, so it is difficult for them to make a difference; and the organizations may change them before they are in an influential professional role. Graduates need to be resilient to being changed	Theme 2. Students should act as change agents advocating and valuing the inclusion of sustainability courses in their degrees, and by launching practical initiatives like carbon-neutral campus projects through clubs and case competitions.	Theme 2. Sustainability is rarely truly embedded in business strategy because short-term profits are more important than sustainability.	Theme 2. Believing that applying this knowledge in their career will make things better for present and future generations (making a difference).

Changes	Reflections	Challenges	Roles	Current trends	Motivations
	required, increasing eco-consciousness.	by their employment.			
Theme 3. Students were "fully satisfied", and thought sustainability is "well incorporated" and "a strategic imperative".	Theme 3. Debates between believers and opponents of sustainability stimulate student reflection on the complications of sustainability.	Theme 3. There is a conflict between short-term profitability and sustainability, and the motivation to look good via greenwashing wins over a genuine commitment to doing good. In consequence many businesses do the bare minimum.	Theme 3. Sustainability should be core to the curricula, with sustainability included by faculty in all modules.	Theme 3. Real change remains superficial, and vulnerable to political and financial pushback.	Theme 3. Knowing / believing that a knowledge of sustainability will become more highly valued in the context of climate emergencies and the deterioration of ecosystems.
Theme 4. A few students suggested that sustainability teaching was "really boring", "not relevant", "shoehorned in", "overkill", "I'm so sick of it", and should be "reduced to the bare minimum" or "removed completely".	Theme 4. Lectures, seminars and business cases which link with theory and knowledge. Students appreciate learning from both positive and negative examples of sustainability, and its relation to the pursuit of short-term profits.	Theme 4. Sustainability is relevant to all parts of a business, and fragmented decisions are made in different parts of a business. This diminishes its priority throughout the value chain. There is a lack of KPIs which connect all departments to sustainability.	Theme 4. Invite industry leaders and businesses with good sustainability practices to come and talk to students.	Theme 4. Greenwashing is rampant.	Theme 4. Given the centrality of business to everyday individual and community life, more sustainable business practices will create more ecologically responsible economies.
	Theme 5. Workshops on the circular economy, especially in the context of innovation and profit (e.g. social innovation modules).	Theme 5. There is a gap between theoretical sustainability frameworks and the practical realities of business operations. While students may gain strong conceptual knowledge, applying these concepts often involves navigating complex	Theme 5. Students to be involved in shaping the curriculum and extracurricular projects to include eco-consciousness basics.	Theme 5. Lack of strong regulations and enforcement of sustainable practices.	Theme 5. Ethics, faith, personal values and moral obligation.

Changes	Reflections	Challenges	Roles	Current trends	Motivations
		organizational cultures, short-term financial pressures, opposition and conflicting stakeholder interests.			
	Theme 6. Conversations with peers on how to apply sustainability knowledge and insights in different industries (especially in post-experience degrees such as MBAs).	Theme 6. Students are motivated by a desire to get ahead in their career, and to increase their wealth. These career self-interests may conflict with promoting sustainability.	Theme 6. Provide real world examples where sustainability has been combined with profitability.		Theme 6. A love for nature and its creatures, and sadness at its destruction.
	Theme 7. Coursework which allows students to analyse, problematise and reflect on the issues and challenges. This helps students to critically apply and deepen their understanding and knowledge of sustainability issues.	Theme 7. With the constant evolution of cross disciplinary knowledge, theoretical frameworks may become outdated.	Theme 7. Business cases which take a longer term view, and include non-financial metrics and risk metrics which incorporate sustainability.		Theme 7. Understanding sustainability and its benefits for the human and natural world.
	Theme 8. The evaluation and feedback on coursework enables further student learning.				Theme 8. Education, family values and childhood experiences and memories embedded in more ecologically balanced ecosystems.
					Theme 9. Understanding the clear correlation between the environment and social and mental well-being, all fundamental for life and society.

Appendix 2: Keywords & frequencies

This table provides the number of times each answer was selected for the four questions which permitted multiple choices (%).

Degree Course		Values source		Best Learning Methods		Students' keywords used	
Accounting	7.29%	British values	9.89%	Traditional lectures on eco-consciousness and sustainability	16.06%	Climate change	11.10%
Business	21.40%	My individual values	46.22%	Guest lectures from eco-consciousness and sustainability experts	11.78%	Triple Bottom Line	8.51%
Entrepreneurship	3.57%	God/Religion/Faith-related values	18.35%	Problem-based learning or workshops on eco-consciousness and sustainability	12.45%	Global Resource Efficiency	5.80%
Finance	10.70%	Culture	21.58%	Case studies on eco-consciousness and sustainable business practices	21.55%	Ecology	4.44%
Informatics	1.86%	Other	3.96%	Group projects focused on eco-consciousness and environmental issues	12.18%	Inequity	5.98%
International business	4.03%			Experiential learning on eco-consciousness and sustainability (e.g., field trips, community projects)	8.03%	Sustainable development	11.41%
Leadership	6.82%			Eco-consciousness and sustainability-related lectures and seminars integrated in broader subjects e.g. Professional ethics, Business Ethics, etc	12.85%	Polycrisis (example: COVID-19)	2.96%
Management	18.14%			Standalone, independently taught eco-conscious and sustainability-related lectures e.g. organised at programme level, extra-curricular or Zero credit modules	3.88%	Natural resources	7.34%
Marketing	12.25%			Other	1.20%	Conservation	4.62%
Operations	3.26%					UN Sustainable Development Goals	8.69%
Organisational studies	1.24%					Global compact	5.36%
Strategy	5.89%					Ethical management	9.99%
Other	3.57%					Ethical governance	8.38%
						Ethical investment	5.43%