

Educating Sustainable Leadership Through Academia–Industry Collaboration for Shared Value and Resilience

Iskra Rodríguez

Tecnológico de Monterrey, School of Business, Aguascalientes, México

iskr.rodriguez@tec.mx

Abstract: Sustainability and resilience are no longer optional; they are at the heart of how organizations and leaders must act today. Research shows that collaborations between academia and industry can significantly enhance organizational innovation, student employability, and entrepreneurial skills. For example, a recent study in *Sustainability* found that academia–industry linkages improve students’ ability to engage in real-world challenges, increase employability, and boost entrepreneurial capabilities (Shanavas et al., 2023). This paper shares lessons learned from a model that combines education, real-world collaboration, and a shared commitment to positive impact. At Tecnológico de Monterrey, students take courses on conscious capitalism, shared value, conscious leadership, and triple impact, where theory is quickly put into practice. Each semester, every student works directly with three different companies (spanning small start-ups, large corporations, and non-profit organizations) that share a real problem or need to be solved. This approach exposes students to diverse industries and business models, while companies benefit from fresh insights and practical proposals. Students address these challenges by utilizing updated course content, leadership tools, artificial intelligence (AI) applications, business simulators, global sustainability reports, and creativity from fresh perspectives unencumbered by routine or “workshop blindness.” The results have been highly encouraging. Many of the student-led ventures that emerged from this methodology now carry a strong social and environmental focus, embedding sustainability into their DNA. At the same time, the organizations involved implemented several of the students’ recommendations—adapting practices, exploring circular economy solutions, and integrating sustainability into strategies—proposals inspired by classroom theory but translated into actionable innovations. What makes this model distinctive is its dual impact: it fosters leaders ready to face global challenges while helping organizations of all sizes view sustainability not as a cost but as an opportunity for innovation, resilience, and shared value. This paper highlights experiences and reflections from these projects, demonstrating how academia–industry collaboration can play a crucial role in shaping sustainable leadership and building resilient organizations that create value for business, society, and the planet.

Keywords: Leadership, Business, Sustainable leadership, Academia–Industry collaboration, Shared value, Organizational resilience, Educational innovation, Higher education

1. Introduction

Organizations operate in an environment characterized by volatility, uncertainty, complexity, and ambiguity (VUCA), intensified by climate change, social inequality, and technological disruption (Horney et al., 2010). In this context, sustainable leadership is increasingly recognized as a fundamental competence for long-term competitiveness, integrating economic, social, and environmental dimensions (Avery & Bergsteiner, 2011). However, the transition from theoretical understanding to practical application remains a persistent challenge for many organizations.

Higher education institutions play a pivotal role in bridging this gap. Traditional instruction often prioritizes abstract theory, whereas challenge-based models promote experiential learning and applied problem solving. The Tecnológico de Monterrey’s *Tec21 Educational Model* represents this paradigm, emphasizing flexibility, mentoring, and real-world challenges (Tec de Monterrey, 2019). Within the School of Business, the Bachelor in Business Strategy and Transformation (LAET) program operationalizes this model by embedding direct collaborations between students and organizations.

This paper examines the LAET model as an empirical example of how academia–industry partnerships can foster sustainable leadership and generate innovation in participating companies. The central hypothesis states that integrating challenge-based learning with sustained collaboration enhances students’ leadership competencies and produces measurable organizational outcomes related to resilience and sustainability.

2. Literature Review

Leadership scholarships have evolved from transactional and transformational paradigms toward frameworks that emphasize sustainability, ethics, and systemic thinking. Avery and Bergsteiner (2011) argue that sustainable leadership emphasizes long-term stewardship and interdependence among economic, social, and environmental objectives. Maak and Pless (2006) conceptualize responsible leadership as a moral and relational process grounded in stakeholder engagement and collective purpose. These perspectives position leadership as an organizational capability that links performance with responsibility.

Academia–industry collaboration has been identified as a catalyst for innovation and employability. Plewa et al. (2015) demonstrate that partnerships structured around reciprocity and co-creation facilitate mutual learning and knowledge transfer. Shanavas et al. (2023) extend this by linking such collaborations to measurable sustainability outcomes, emphasizing the development of adaptive competencies such as systems thinking and cross-sector collaboration. These studies provide an empirical foundation for integrating academia–industry initiatives into higher education curricula.

Porter and Kramer’s (2011) theory of Creating Shared Value (CSV) reinforces the argument that social impact can drive competitiveness when embedded in business strategy. Resilience theory (Lengnick-Hall et al., 2011) complements this view by describing how adaptive learning processes enable organizations to evolve in the face of uncertainty. Together, these frameworks suggest that sustainable leadership education should not only impart values but also develop the analytical and adaptive skills necessary for managing complexity.

Kolb’s (2014) experiential learning theory, along with its applications through Problem-Based Learning (PBL) and Challenge-Based Learning (CBL), provides pedagogical support for linking management theory to practice. Brundiers et al. (2020) emphasize that sustainability education achieves a more profound impact when students engage directly with real-world challenges and stakeholders. The Tec21 model embodies these principles, transforming classroom knowledge into applied experience and allowing empirical evaluation of leadership and sustainability outcomes.

3. Methodology

A mixed-methods design was implemented to analyze the effects of the LAET collaboration model. Quantitative data were collected through surveys from students (n=180) and participating companies (n=15). The surveys, designed *ad hoc* and validated by faculty experts, measured leadership, ethics, teamwork, innovation, resilience, and digital fluency using five-point Likert scales. The analysis compared cohorts that completed theoretical courses only with those engaged in direct company projects. Results showed that average competence scores were 20–30% higher among students who worked with real companies.

Qualitative data were gathered through open-ended survey questions and reflective reports, facilitating triangulation of the quantitative findings. Responses were coded thematically to identify recurring patterns related to accountability, decision-making, and sustainability awareness. The reliability of the instruments was confirmed through internal consistency (Cronbach’s alpha >0.80).

Projects lasted five weeks per company. Two professors taught the theoretical component, and a third professor coordinated with organizational leaders to ensure alignment between academic content and business challenges. This triadic structure facilitated immediate application of theory and feedback. Ethical considerations included voluntary participation, informed consent, and anonymization of all data.

4. Results

Quantitative findings indicate significant improvements in all targeted competencies, with the most pronounced gains in teamwork, sustainable leadership, and strategic thinking. Companies reported tangible benefits, emphasizing creativity and the feasibility of student proposals.

Table 1: Student perceptions of competencies developed (n=180)

Competency	% reporting improvement
Teamwork & collaboration	95%
Sustainable leadership & ethics	92%
Strategic thinking & resilience	88%
Entrepreneurial/innovation mindset	84%
AI and digital tools usage	79%

A comparative analysis confirmed that students rated their competence growth higher than companies rated the applicability of proposals, suggesting differing perspectives on the feasibility of implementation.

Table 2: Student versus company perceptions of project impact

Indicator	Students (%)	Companies (%)
Leadership skills improved	90	86
Sustainability mindset enhanced	95	72
Practical applicability	80	82
Innovation capacity increased	87	78

Qualitative analysis highlighted recurring insights. Students reported increased accountability when presenting to real company executives, contrasting this experience with theoretical coursework. They recognized the strategic and ethical weight of executive decision-making and learned to balance profitability with environmental and social considerations. Companies described student proposals as innovative and valuable but noted that full implementation would require additional feasibility studies.

A clear correlation emerged: the more students interacted with real problems and executives, the greater their commitment and leadership growth. The projects also fostered sustainability awareness beyond immediate team departments, which often adopted suggested practices. These findings suggest that collaboration cultivates both individual competence and organizational learning.

5. Discussion

The results validate the hypothesis that structured academia–industry collaboration enhances sustainable leadership competencies while benefiting organizations. Quantitative comparisons demonstrated measurable learning gains, while qualitative data confirmed that exposure to real decision-making contexts strengthens accountability and ethical awareness. These findings align with experiential learning theory (Kolb, 2014) and CSV (Porter & Kramer, 2011), evidencing how academic practice can generate applied innovation.

The dual benefit of the Tec21 model lies in the simultaneous development of human and organizational capital. For students, interaction with executives builds confidence and systems thinking. For companies, collaboration yields fresh insights and low-cost innovation pilots. However, limited timeframes and resource constraints restrict the scope of implementation. Organizations also noted the need for follow-up studies to deepen feasibility assessments.

This study contributes to the sustainability education literature by empirically linking experiential learning to measurable outcomes in leadership and resilience. It demonstrates that short-term, structured collaborations can bridge the gap between theoretical instruction and strategic practice, predominantly when guided by coordinated faculty mentorship. Future studies should adopt longitudinal designs to evaluate long-term impacts on graduates' leadership behavior and organizational innovation trajectories.

6. Conclusion

The findings indicate that integrating challenge-based learning with sustained academia–industry collaboration effectively develops sustainable leadership and contributes to organizational resilience. Students demonstrated significant improvements in key competencies, and companies reported actionable proposals that aligned with their sustainability goals. Empirical evidence supports the value of real-world, faculty-guided engagement as a driver of both educational quality and business innovation.

The Tec21 and LAET model demonstrates that academic programs can become laboratories for sustainable transformation when theory, practice, and purpose converge. These results reinforce the relevance of collaboration-based education in advancing leadership capable of addressing global challenges while fostering shared value creation.

Ethics Declaration: All surveys were conducted voluntarily, with participants providing informed consent and responding anonymously.

AI Declaration: This paper was partially drafted and structured using ChatGPT (OpenAI) as a writing assistant. Final interpretation and responsibility remain with the author.

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