

Yu-Wei Hsu, Adjunct Lecturer, International Master of Administration (IMBA), NTHU
PhD Student, International Intercollegiate PhD Program (IPHD), NTHU

National Tsing Hua University (NTHU) / International Master of Business Administration (IMBA)

Hung-Wen Chen, Associate Professor, International Intercollegiate PhD Program (IPHD),
National Tsing Hua University (NTHU), Taiwan

DUAL-COURSE ENTREPRENEURSHIP EDUCATION: VENTURE PLANNING AND DECISION-MAKING THROUGH SIMULATION

1. Aim of the Study

This study introduces a dual-course pedagogical model conducted at National Tsing Hua University (NTHU), Hsinchu, Taiwan, aimed at cultivating entrepreneurial mindset and decision-making skills through experiential learning. The two elective courses: Entrepreneurship & New Venture (ENV) and Business Decision Making for New Organization (BDM), are primarily offered under the International Master of Business Administration (IMBA) program. When seats are available, students from other departments may also enroll.

Offered as elective courses in separate semesters, ENV and BDM are designed to be pedagogically complementary. ENV focuses on early-stage entrepreneurial thinking, venture design, and structured planning. BDM provides hands-on simulation experiences requiring adaptive decision-making and strategic responses. This study examines how this model strengthens entrepreneurial mindset, teamwork, strategic thinking, and reflective learning, with potential for international adaptation and collaboration, especially on cross-country business simulation related to BDM.

2. Theoretical Framework

Entrepreneurship education often draws from two core logics: causation and effectuation (Sarasvathy, 2001). Causation involves predictive, goal-driven processes, while effectuation embraces adaptability based on available means. ENV aligns with causation by guiding students in market research, business planning, and structured pitch preparation. BDM emphasizes effectuation, requiring students to make real-time decisions in uncertain, competitive environments (Chandler et al., 2011).

Both courses follow Kolb's experiential learning model (1984), encouraging students to engage, reflect, and iterate through active learning cycles. In ENV, this occurs through

opportunity framing and venture design. In BDM, this deepens through simulated rounds of decision-making with feedback loops.

To promote team-based reasoning, students assume roles such as CEO, CFO, and CMO, applying cross-functional collaboration (Klotz et al., 2014). The simulation tool – 8-Cross® Business Decision Making System, developed by Awesome BMI in Taiwan – supports this structure. It integrates core business functions and evaluates outcomes using both financial and non-financial metrics, including Economic Value Added (EVA) to simulate investor-focused decision logic. Inspired in part by strategic adaptability concepts from I Ching (Book of Changes), the simulation embraces uncertainty, systemic balance, and long-term thinking. Such frameworks reinforce entrepreneurial persistence as students repeatedly test assumptions and adapt their logic through guided uncertainty (Caliendo et al., 2020).

3. Methods

Across five years, the two courses enrolled a combined 282 students: 174 in ENV and 108 in BDM. Among these, 54 students (19%) completed both courses. The rest were split between ENV-only (120 students) and BDM-only (54 students).

From a program breakdown:

- IMBA students accounted for 109 in ENV, 79 in BDM, and 43 in both.
- Non-IMBA students included 65 in ENV, 29 in BDM, and 11 in both.

From a nationality perspective:

- International students made up 84% of all enrollments, including 85% in ENV and 82% in BDM.
- In total: 237 foreign students, 45 local (Taiwanese) students.
- Most foreign students came from Asia, with others from Europe, Africa, and the Americas. This diversity enhanced intercultural communication and simulation dynamics, supporting the model's adaptability for international joint programs.

In ENV, students developed and presented business plans as teams, with several of them joining competitions such as the Hult Prize. In BDM, teams ran simulated companies that compete among each other through multiple rounds, making decisions in marketing, operations, finance, and HR. Scenarios were introduced to reflect external shocks (e.g., trade war, market implications, supply chain disruption), enhancing resilience and decision agility.

The 2023 Taiwan Business Simulation Competition used a customized interface of the 8-Cross® system, enabling external participants. While AI agents are not yet integrated, the

system architecture allows future Human-AI Collaboration to test AI-assisted versus human team performance.

4. Results

The following outcomes were observed:

- Students who took both courses reported increased confidence in applying entrepreneurial logic, leading teams, interpreting financial outcomes, and navigating challenges. They valued the opportunity to “fail safely” and gain practical experience before entering real ventures.
- In BDM, scenario-driven disruptions exposed strategic and coordination gaps, helping students build stronger resilience under uncertain conditions -- an increasingly essential trait in today’s volatile global landscape.
- Taken together, ENV and BDM reinforced that a strong business plan must be coupled with teamwork, adaptive execution, and financial discipline to support survival and competitiveness.

5. Conclusions

The dual-course model offers an integrated framework for cultivating entrepreneurial thinking, planning, and adaptive decision-making. ENV develops foundational ideas and structured logic, while BDM creates iteration-based learning and stress-tested strategy execution. Together, they bridge business theory and entrepreneurial action.

6. Implications

This dual-track design contributes to entrepreneurship education by:

- Aligning theoretical models with experiential outcomes in team-based formats
- Demonstrating how locally developed tools can mirror volatile global conditions
- Presenting clear opportunities for international collaboration and competition, including future integration of Human-AI Collaboration for cross-border simulations

References

Caliendo, M., Göthner, M., & Weißenberger, M. (2020). Entrepreneurial persistence beyond survival: Measurement and determinants. *Journal of Small Business Management*, 58(3), 617–647. <https://doi.org/10.1080/00472778.2021.2024216>

Chandler, G. N., DeTienne, D. R., McKelvie, A., & Mumford, T. V. (2011). Causation and effectuation processes: A validation study. *Journal of Business Venturing*, 26(3), 375–390. <https://doi.org/10.1016/j.jbusvent.2009.10.006>

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.

Klotz, A. C., Hmieleski, K. M., Bradley, B. H., & Busenitz, L. W. (2014). New venture teams: A review of the literature and roadmap for future research. *Journal of Management*, 40(1), 226–255. <https://doi.org/10.1177/0149206313493325>

Sarasvathy, S. D. (2001). Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. *Academy of Management Review*, 26(2), 243–263. <https://doi.org/10.5465/amr.2001.4378020>