e-ISSN: 2600-7568

Available online at
https://gadingssuitm.com/index.php/gadingss

GADING Journal for the Social Sciences 28(2) 2025, 374 – 384

GADING Journal for the Social Sciences

Enhancing Conceptual Understanding of Corporate Finance through Simulated Data: A Teaching and Learning Approach

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ARTICLE INFO

Article history:
Received 17 July 2025
Revised 06 October 2025
Accepted 25 October 2025
Online first
Published 31 October 2025

Keywords:
corporate finance
simulation
teaching
learning

DOI:
https://doi.org/10.24191/gading.v28i2.646

ABSTRACT

This paper proposes and details a pedagogical framework that highlights the integration of simulated financial data to improve conceptual understanding and decision-making skills of Corporate Finance education. Traditional lecture-based teaching often struggles to contextualize abstract financial concepts such as Net Present Value (NPV), Internal Rate of Return (IRR), capital budgeting, capital structure, and dividend policy. Through a structured simulation framework, this study presents a novel method to bridge theoretical knowledge with practical financial scenarios. A sample capital budgeting simulation *is presented as a teaching tool for implementation by educators*. The paper concludes with a discussion of the implications for curriculum design, student engagement, and future research opportunities in finance education.

1. INTRODUCTION

Corporate Finance is a critical component of business and management curricula, equipping students with the knowledge and skills to make financial decisions within firms. It serves as a cornerstone subject in business schools, bridging theory with application in areas such as investment decision-making, capital budgeting, dividend policies, and financial risk management. Despite its importance, Corporate Finance remains a difficult subject for many students, primarily because it deals with abstract, mathematical, and model-driven content that often lacks relatable, real-world context. Traditional teaching methods, especially those based on lectures and textbook problem-solving, are frequently insufficient in helping students internalize key financial principles. Furthermore, studies have shown that such conventional approaches frequently fail to prepare students for the complexities of real-world business challenges (Carrithers et al.,

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2008). Concepts like the time value of money, internal rate of return (IRR), net present value (NPV), and cost of capital are introduced theoretically, often detached from realistic scenarios where such decisions are made under uncertainty and time constraints. This has led to persistent issues in learning outcomes, with students showing limited retention and application of these critical concepts.

Educators have increasingly turned to alternative pedagogical approaches such as case studies, experiential learning, and simulations to address these issues. Simulations have demonstrated promise in various disciplines but remain underutilized in Corporate Finance education. Through structured and interactive exercises, simulations allow students to test assumptions, manipulate financial variables, and observe the consequences of their decisions, thus fostering deeper learning. However, many finance courses still lack accessible models and frameworks for implementing simulation effectively.

This paper argues the use of simulated data as an effective instructional tool in Corporate Finance, aiming to bridge the gap between theory and practice. Simulated scenarios help replicate real-life decision-making environments where students can experiment, make errors, and learn from consequences without real-world risks. By integrating simulations into finance pedagogy, instructors can provide learners with opportunities to develop analytical, interpretive, and strategic thinking skills.

The remainder of this paper is structured as follows: Section 2 reviews the relevant literature on finance education and simulation-based learning. Section 3 presents the conceptual framework underpinning the simulation approach. Section 4 details the proposed methodological method, presenting a sample simulation scenario designed for classroom implementation. Section 5 discusses pedagogical benefits, followed by Section 6 that discusses the pedagogical benefits on broader implications for curriculum design and instruction. Section 7 concludes with key insights and suggestions for future research.

2. LITERATURE REVIEW

The pedagogical challenges in teaching Corporate Finance have been extensively documented in academic literature. Arnold and Lange (2004) noted that students often fail to grasp key financial concepts due to the abstract nature of the subject and the lack of contextual application. Similarly, De Franco and Hope (2011) argued that while students may memorize formulas and techniques, they often struggle to apply them effectively in real-world decision-making scenarios. This disconnect underscores the need for more innovative and experiential teaching methods that move beyond traditional didactic instruction. Experiential learning is increasingly recognized as a powerful approach to improving financial education outcomes. Kolb's (1984) theory of experiential learning posits that knowledge is created through the transformation of experience. In the context of finance education, experiential learning can be implemented through case studies, role-playing, and, more recently, simulations. Bonner (2010) observed that simulations encourage students to apply theoretical knowledge in dynamic environments, thus developing practical competencies necessary in the financial industry.

However, simulation-based learning is still underutilised in finance education compared to fields like medicine and engineering. Carluccio (2021) emphasized that interactive simulations significantly boost student engagement, motivation, and comprehension by replicating real-life financial decisions. Lew and Saville (2021) supported the notion that simulations not only promote active involvement with theory and practical learning but also foster reflective thinking and critical insight for agile decision-making across varied contexts. When carefully designed and integrated into the curriculum, simulations enable students to test assumptions, visualize financial impacts, and learn from mistakes within a safe learning environment. Recent literature affirms the growing importance of simulation tools in finance education. Salas-Molina et al. (2020) provided a comprehensive review and highlighted how simulations enhance learners' cognitive and affective engagement, particularly when supported by reflective activities and feedback mechanisms. Their study calls for customizable and scalable simulation tools that accommodate varied institutional contexts and learning preferences. In the past five years, newer studies have emphasized the integration of financial technology (FinTech) tools in simulation environments. For instance, Sironi (2016) introduced a FinTech simulation module to teach students how digital platforms and robo-advisors function in portfolio

https://doi.org/10.24191/gading.v28i2.646

management. This demonstrates how simulation content is evolving alongside industry trends, equipping learners with up-to-date competencies aligned with market needs.

Similarly, Park and Lim (2021) examined the effectiveness of cloud-based simulation platforms in finance education. Their findings showed that students exposed to cloud simulations develop better analytical skills and higher confidence in using real-time financial data. This supports the broader digital transformation of higher education and reinforces the role of technology-enhanced simulations in financial pedagogy. Furthermore, recent experimental studies have confirmed that simulation-based learning positively affects academic performance in finance courses. A controlled study by Zhao and Wu (2023) found that students exposed to corporate finance simulations score significantly higher in concept application assessments compared to their peers in traditional lecture-based classes. This reinforces the effectiveness of simulations not only for engagement but also for measurable learning outcomes.

In terms of soft skill development, simulation exercises have also been shown to enhance critical thinking, teamwork, and communication. Al-Debei and Shahin (2020) found that group-based simulation projects foster collaborative learning and improve students' ability to articulate financial strategies and defend their decisions under peer review. These competencies are highly valued by employers and align with competency-based education models. Moreover, modern simulation approaches often incorporate gamification elements to increase motivation and participation. According to Gómez-Trujillo et al. (2021), gamified simulations in finance courses significantly improve student satisfaction, particularly among digitally native learners. This suggests that future finance pedagogy should consider integrating game mechanics such as leaderboards, badges, and challenge-based learning.

Lastly, the rise of artificial intelligence (AI) and data analytics in finance has prompted scholars to explore the use of AI-driven simulations in education. A study by Chiu and Yeh (2023) introduced AI-simulated trading bots in a finance class, enabling students to understand market behaviour through real-time simulations. These innovations suggest that simulation-based learning will become increasingly sophisticated and indispensable in finance education. In summary, the literature over the past two decades, especially in the last five years, supports a strong and growing case for incorporating simulation into the teaching of Corporate Finance. Simulations enhance conceptual clarity, student engagement, and professional readiness by bridging the gap between theory and practice. Future research should continue exploring the integration of emerging technologies and adaptive learning platforms to further strengthen finance education.

3. CONCEPTUAL FRAMEWORK

The proposed framework leverages the concept of experiential learning, combining theory with practical simulation. The layered framework not only reinforces technical proficiency but also nurtures higher-order cognitive skills. This structure transforms Corporate Finance education from a passive, formula-driven exercise into an interactive, decision-oriented learning process. The interaction among these components creates a dynamic learning environment that promotes higher-order thinking and deeper conceptual understanding. The framework consists of three interrelated components:

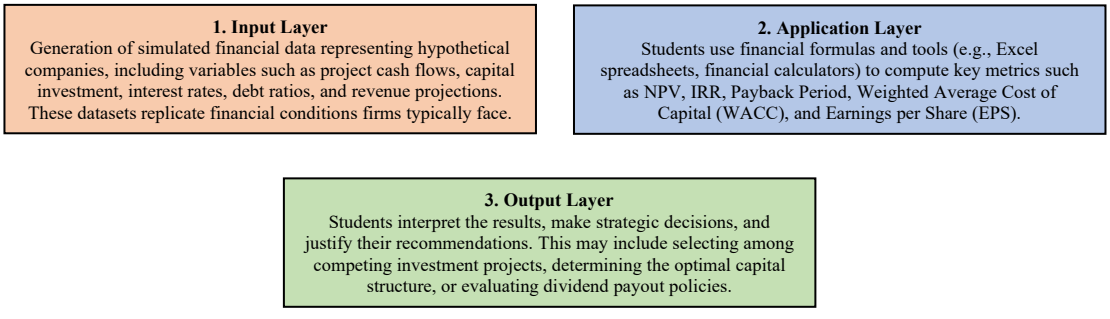

Fig 1. Simulation-Based Learning Framework for Corporate Finance Education

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4. THE PROPOSED PEDAGOGICAL METHOD: A CAPITAL BUDGETING SIMULATION

To operationalise the proposed simulation framework, this section presents a structured classroom activity focused on capital budgeting, a fundamental topic in Corporate Finance curricula. The aim is to foster active learning by placing students in a decision-making role where they must evaluate multiple investment options under financial constraints. To illustrate the framework, we present a simulation on capital budgeting, a core concept in Corporate Finance. Students are assigned the role of financial analysts tasked with evaluating three investment projects (A, B, and C). Each project involves a different initial investment (Initial Outlay) and a fixed annual cash inflow for five years. Students must compute the IRR and NPV at a 10% discount rate and determine which project(s) should be accepted.

Table 1. Summary of NPV and IRR Calculations for Three Investment Projects

Project	Initial Outlay (RM)	Annual Cash Flow (RM)	IRR (%)	NPV @10% (RM)
A	100,000	30,000	15.24	- 13,723.60
B	120,000	25,000	13.8	- 25,230.33
C	90,000	20,000	3.62	-14,184.26

4.1 Teaching Instructions

In implementing the simulation activity, instructors are advised to provide students with a blank spreadsheet template to input the initial assumptions and perform financial calculations such as NPV and IRR. Students are encouraged to compare the outcomes of these two metrics and critically analyse any conflicting rankings. The instructor should facilitate a discussion on the limitations of IRR, including issues of multiple rates and reinvestment assumptions, as well as the implications of capital rationing and risk. To deepen the analysis, students can also be prompted to conduct a sensitivity analysis by adjusting the discount rate or projected cash flows to observe how changes affect project viability. This exercise reinforces the understanding of the time value of money, capital budgeting criteria and decision-making under constraints.

4.2 Extended Simulation Activities and Pedagogical Enhancements

Building on the foundational simulation scenario, several pedagogical enhancements can be introduced to increase the depth, realism, and learning impact of the activity. These extensions serve not only to enrich students' cognitive skills but also to integrate soft skills and applied financial reasoning.

First, instructors can adopt a step-by-step approach using Excel functions or financial calculators to enhance students' understanding of Net Present Value (NPV) and Internal Rate of Return (IRR) calculations. This method emphasizes the underlying mechanics of the computations rather than allowing students to rely entirely on automated outputs. To support this process, instructors may provide pre-structured templates with partial data inputs, guiding students to correctly input cash flows and apply relevant formulas such as =NPV() and =IRR().

Using Project A as an example, the initial outlay, constant annual cash flows, IRR, and NPV are provided. The description below shows how to calculate NPV and IRR using Excel and a financial calculator (BA II Plus), assuming a discount rate of 10%. The input for the simulation of Project A is shown in Table 2.

Table 2. Project A: Investment Inputs and Evaluation Metrics

Details	Value
Initial Outlay	RM100,000
Annual Cash Flow	RM30,000
Project Life	5 years
Discount Rate	10%
IRR (Given)	15.24%
NPV @ 10% (Given)	RM13,723.60

https://doi.org/10.24191/gading.v28i2.646

i. Steps in Excel

a. NPV Calculation

To calculate Net Present Value (NPV) in Excel, the =NPV() function is used, which discounts future cash flows based on a given discount rate. However, it is important to note that this function does not include the initial investment (Initial Outlay) (Year 0). That amount must be subtracted manually. The formula used is as follows:

= NPV(10%, 30000, 30000, 30000, 30000, 30000) – 100000
= RM13,723.60

The =NPV() function in Excel is used to calculate the present value of a series of future cash flows, typically starting from Year 1 onwards. In the case of Project A, since the project generates RM30,000 annually for five years, the function will discount each of those cash flows at the given discount rate of 10 percent. However, it is important to note that Excel's NPV function does not automatically include the initial investment (which occurs at Year 0). Therefore, once the present value of the future cash flows is obtained, the initial outlay of RM100,000 must be subtracted manually to arrive at the actual Net Present Value (NPV) of the project.

b. IRR Calculation

To calculate the Internal Rate of Return (IRR) in Excel, the =IRR() function is used by entering the full range of cash flows, starting from the initial investment in Year 0, followed by the annual cash inflows. For Project A, the initial investment of RM100,000 is entered as a negative value, while the RM30,000 inflows for five years are entered as positive values. The IRR function will then compute the discount rate that makes the Net Present Value (NPV) equal to zero, reflecting the project's expected rate of return. The cash flows in Excel are entered as follows:

Table 3. Cash Flow Table for Project A

Year	Cash Flow
0	-100000
1	30000
2	30000
3	30000
4	30000
5	30000

Then use the formula:
= IRR(B2:B7)
= 15.24%

ii. (ii) Steps Using Financial Calculator (BA II Plus)

Using a financial calculator such as the BA II Plus allows students to compute NPV and IRR efficiently once the cash flow values are entered correctly. The calculator follows a structured sequence where the initial outlay (Year 0) is entered as a negative value, followed by the annual cash inflows and their frequency. This hands-on method helps to reinforce the time value of money concept while giving students a practical feel of how financial decisions are made using real tools. The steps for Project A are shown in Table 4.

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Table 4. Step-by-step instructions for calculating NPV and IRR using the BA II Plus financial calculator for Project A (5-year duration, RM30,000 annual cash flow, 10% discount rate).

Step	Description	Key Presses / Inputs
1	Access Cash Flow mode	Press CF
2	Enter initial outlay (CF_0)	Input 100000, press +/-, then ENTER
3	Enter annual cash flow (CF_1)	Input 30000, press ENTER
4	Enter frequency for CF_1 (F01)	Input 5, press ENTER
5	Confirm no additional cash flows	Scroll to C02 = 0
6	Access the NPV function	Press NPV
7	Enter discount rate (I)	Input 10, press ENTER
8	Compute NPV	Press ↓, then CPT
	Result: NPV	NPV = 13,723.60
9	Compute IRR	Press IRR, then CPT
	Result: IRR	IRR = 15.24%

Note:
i. Ensure previous entries are cleared before use: 2ND → CLR WORK.
ii. The initial outlay must be entered as a negative value.
iii. F01 = 5 is used because the same cash flow occurs annually for 5 years.

5. PEDAGOGICAL JUSTIFICATION AND HIGHER-ORDER LEARNING IMPACT

The simulation activity involving NPV and IRR calculations, conducted through Excel and financial calculators, serves as an effective pedagogical approach to enhance students' understanding of core financial decision-making concepts. By guiding students step-by-step in using formulas such as =NPV() and =IRR() in Excel, as well as applying keystroke-based calculations using the BA II Plus financial calculator, the activity ensures that students go beyond theoretical memorisation. They learn to apply knowledge practically and accurately in a context that mirrors real-world financial analysis.

This task aligns well with the principles of extended and enhanced thinking. It encourages students to apply finance concepts in meaningful ways while developing computational fluency. Students are not only asked to compute values but also to interpret the results, compare investment options, and make justified recommendations based on quantitative evidence. Through this process, they engage in higher-order thinking, including analysing, evaluating, and synthesising information, rather than simply recalling steps. In addition, the activity develops transferable skills, such as the ability to use spreadsheet software and financial tools, which are essential competencies in both academic and professional finance settings. When extended to include scenario variations (such as changing discount rates or comparing conflicting NPV and IRR outcomes), the simulation becomes even more powerful. It provides space for reflective reasoning, where students are prompted to consider “what-if” scenarios and understand the sensitivity of investment decisions to assumptions.

Overall, this pedagogically sound and practically relevant activity supports deeper learning by combining conceptual clarity, hands-on execution, and critical interpretation. It transforms a typically formula-heavy topic into an interactive and engaging experience that prepares students for real-world application in financial analysis and decision-making.

6. DISCUSSION

The integration of simulation-based learning in Corporate Finance education has gained substantial traction as a strategy that promotes deeper understanding, active participation, and the development of industry-relevant skills. Simulation serves as a bridge between theoretical concepts and practical applications, allowing students to engage with real-world financial problems in a controlled learning environment (Cheng et al., 2022). One of the core benefits of simulation is its ability to enhance conceptual clarity. Complex financial principles such as Net Present Value (NPV), Internal Rate of Return (IRR), and capital budgeting decisions can often be abstract and difficult to internalize when taught solely through lectures or textbooks. However, when students apply these concepts using structured data and step-by-step tools (such

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as Excel functions and financial calculators), they are more likely to comprehend the logic behind the calculations and the financial implications of each input variable (Nguyen & Huynh, 2021).

Additionally, simulation encourages active learning, a practice widely acknowledged that leads to improved student engagement, enhanced knowledge retention, and increased critical thinking (Karakaya & Avci, 2020). By interacting with data, manipulating financial models, and making decisions based on outcomes, students become active participants in their learning process rather than passive recipients of information. This aligns well with the constructivist view of learning, where knowledge is constructed through experience and reflection. Furthermore, simulations foster a variety of technical and analytical skills. Students learn to navigate spreadsheet tools, apply relevant formulas, and interpret numerical results in a decision-making context. They also improve their ability to communicate financial outcomes and justify their investment choices, skills that are highly valued in the finance profession (Lim & Teoh, 2020).

The real-world relevance of simulations makes them particularly impactful in a finance curriculum. Students are exposed to scenarios like those encountered by financial analysts and investment professionals, thereby narrowing the gap between academic learning and industry practice. According to Abdullah and Yaacob (2023), simulation-based exercises are effective in preparing students for professional challenges, especially in areas such as risk evaluation, return forecasting, and strategic investment planning. Moreover, simulations support differentiated instruction, allowing educators to tailor the complexity of the task based on learners' abilities and levels. For example, undergraduate students may focus on basic NPV and IRR estimations, while postgraduate learners can explore more advanced simulations involving uncertainty, tax effects, scenario analysis, and multi-phase project evaluations (Tan & Rahman, 2021).

7. IMPLICATIONS FOR TEACHING AND LEARNING

The pedagogical potential of simulation-based learning extends beyond classroom engagement into broader areas of curriculum development, assessment design, and instructional delivery. One effective approach is the incorporation of simulations into a blended learning environment, where they complement lectures, tutorials, and online components. This hybrid method supports flexibility in instruction while accommodating various learning styles (Lee et al., 2021). In terms of assessment, simulations can serve both formative and summative functions. For formative assessment, instructors can monitor students' decision-making processes, provide immediate feedback, and identify areas of misunderstanding. As summative tools, simulations can assess technical accuracy, strategic thinking, and the ability to communicate financial reasoning in written or oral forms.

Additionally, simulations are well-aligned with Outcome-Based Education (OBE) frameworks that emphasize measurable learning outcomes, applied competencies, and real-world relevance. Through simulation tasks, students demonstrate mastery of core finance skills such as evaluating investment viability, applying discount rates, and interpreting project feasibility under financial constraints. Importantly, instructors must also be prepared to design and facilitate these experiences. Faculty training is essential to ensure that simulations are implemented effectively, with well-structured templates, clear rubrics, and alignment to course objectives (Ismail et al., 2022).

Beyond classroom use, universities can explore the integration of simulation exercises into capstone projects or interdisciplinary learning modules. For example, combining finance simulations with data analytics, sustainability, or entrepreneurial decision-making can expose students to multi-dimensional problem-solving. As the demands of the financial sector continue to evolve under the influence of technology, environmental concerns, and global uncertainty, preparing students through simulation-based learning ensures that they are equipped not only with technical knowledge but also with adaptive thinking and problem-solving abilities (Rahman & Chan, 2024). Thus, the simulation approach represents a progressive, student-centred teaching strategy that meets the evolving needs of modern finance education.

https://doi.org/10.24191/gading.v28i2.646

8. CONCLUSION

In conclusion, simulation-based learning has emerged as a transformative pedagogical approach in corporate finance education, bridging the gap between theoretical frameworks and real-world financial decision-making. By enabling students to apply complex concepts such as NPV and IRR through interactive tools like Excel and financial calculators, simulations not only deepen conceptual understanding but also cultivate essential skills in analysis, communication, and critical thinking. This immersive and experiential method aligns seamlessly with outcome-based education and supports differentiated learning pathways across undergraduate and postgraduate levels. More importantly, it enhances student engagement, fosters reflective learning, and prepares future finance professionals to navigate uncertainty, complexity, and strategic challenges with confidence. As the financial landscape becomes increasingly data-driven and dynamic, embedding simulation into the curriculum is not merely an option; it is a necessity for producing agile, competent, and industry-ready graduates.

ACKNOWLEDGEMENTS/FUNDING

The authors would like to acknowledge the support of Faculty of Business and Management, Universiti Teknologi MARA, Puncak Alam, Selangor, Malaysia for providing the facilities and financial support for this research.

CONFLICT OF INTEREST STATEMENT

The authors agree that this research was conducted in the absence of any self-benefits, commercial or financial conflicts and declare the absence of conflicting interests with the funders.

AUTHORS' CONTRIBUTIONS

Shahsuzan Zakaria led the conceptualisation and design of the study, developed the overall teaching and learning strategy, and provided academic leadership throughout the project. He coordinated team contributions, supervised the implementation of the simulated data approach, and was primarily responsible for drafting, refining, and finalizing the manuscript. Nor Farradila Abdul Aziz assisted in developing the teaching framework and contributed to the analysis and interpretation of learning outcomes. She supported classroom implementation, helped assess student engagement with the simulated data, and provided feedback on the effectiveness of the teaching strategy. Siti Norbaya Mohd Rashid was responsible for designing and structuring the simulated financial data used in the study. She contributed to the drafting of the methodology section and ensured that the simulation models reflected real-world corporate finance scenarios relevant to student learning. Rafiatul Adlin Mohd Ruslan contributed to the literature review and supported the alignment of the teaching approach with curriculum objectives. She also participated in editing and proofreading the manuscript and helped in preparing supporting teaching materials for classroom delivery. Mohd Faizal Kamarudin contributed to the literature review and ensured that the teaching strategy was aligned with current pedagogical theories and practices. He assisted in refining the conceptual framework, validated the academic content for clarity and coherence, and participated in the final editing and proofreading of the manuscript.

REFERENCES

Abdullah, R., & Yaacob, M. R. (2023). Enhancing financial literacy and decision-making through simulation-based learning. *Journal of Business and Finance Education*, *18*(1), 45–58. https://doi.org/10.1016/j.jbfe.2023.04.002

Al-Debei, M. M., & Shahin, A. (2020). Enhancing students' learning outcomes through simulation-based cooperative learning in financial accounting. *Education and Information Technologies*, 25, 5561–5584. https://doi.org/10.1007/s10639-020-10235-2

Arnold, G., & Lange, P. (2004). Using case studies to strengthen student engagement in corporate finance. *Journal of Financial Education*, 30, 59–77.

Bonner, S. E. (2010). Enhancing learning and motivating students: The case for the use of simulations in teaching business. *Accounting Education*, *19*(1–2), 1–15. https://doi.org/10.1080/09639280902888118

Carluccio, F. (2021). Teaching corporate finance through interactive simulations. *Finance Research Letters*, 42, 101928. https://doi.org/10.1016/j.frl.2021.101928

Carrithers, D., Ling, T., & Bean, J. C. (2008). Messy problems and lay audiences: Teaching critical thinking within the finance curriculum. *Business Communication Quarterly, 71*(2), 152-170.

Cheng, Y., Ong, K., & Tan, W. Y. (2022). Bridging the gap between theory and practice: The role of simulation in financial education. *International Journal of Teaching and Learning in Higher Education*, *34*(2), 110–125.

Chiu, C.-L., & Yeh, Y.-H. (2023). Using AI-enabled bots for teaching investment behavior: Evidence from a simulation-based approach. *Journal of Financial Education and Technology*, *5*(1), 33–49.

De Franco, G., & Hope, O. K. (2011). Teaching the "soft skills" of finance. *Issues in Accounting Education*, *26*(2), 315–323. https://doi.org/10.2308/iace-50068

Gómez-Trujillo, Á. M., González-Cabrera, J., & Pérez-Sanagustín, M. (2021). The effects of gamified simulations on motivation and learning outcomes in higher education finance courses. *Computers & Education*, 167, 104172. https://doi.org/10.1016/j.compedu.2021.104172

Ismail, Z., Haron, R., & Kamaruddin, N. (2022). Preparing educators for digital transformation: Simulation tools in finance curriculum. *ASEAN Journal of Teaching and Learning*, *12*(3), 78–91.

Karakaya, F., & Avci, U. (2020). Active learning in finance education: The impact of simulations on student performance. *International Journal of Educational Technology in Higher Education*, *17*(1), 17–31. https://doi.org/10.1186/s41239-020-00210-3

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

Lee, M. Y., Tan, C. S., & Fong, C. L. (2021). Enhancing student engagement through blended simulation in undergraduate finance courses. *Asia-Pacific Education Researcher*, *30*(5), 409–421. https://doi.org/10.1007/s40299-021-00553-2

Lew, C., & Saville, A. (2021). Game-based learning: Teaching principles of economics and investment finance through Monopoly. *The International Journal of Management Education, 19*(3), 100567.

Lim, K. T., & Teoh, J. M. (2020). Building technical and analytical skills in finance students through spreadsheet-based simulation. *Education and Training*, *62*(4), 375–389.

Nguyen, H., & Huynh, L. (2021). Applied learning in financial management: A comparative study of traditional and simulation-based methods. *Journal of Financial Education and Practice*, *7*(2), 92–105.

Park, S. H., & Lim, H. J. (2021). Cloud-based simulations in finance education: Effects on learning performance and student perceptions. *Interactive Learning Environments*, *29*(6), 856–870. https://doi.org/10.1080/10494820.2019.1709212

Rahman, M. S., & Chan, S. L. (2024). Simulation in finance education: Empowering future professionals for complex decision-making. *Journal of Applied Business Research*, *40*(1), 27–39.

Salas-Molina, F., Martín-del-Brío, B., & Sagarra, M. (2020). Simulation as a learning tool in financial education: A literature review. *Education + Training*, *62*(5), 603–622. https://doi.org/10.1108/ET-04-2019-0076

Sironi, P. (2016). *FinTech innovation: from robo-advisors to goal-based investing and gamification*. John Wiley & Sons.

Tan, H. Y., & Rahman, F. A. (2021). Differentiated learning in postgraduate finance education: The value of customised simulation. *Malaysian Journal of Education and Learning*, *9*(2), 55–66.

Zhao, X., & Wu, J. (2023). Evaluating the impact of simulation-based learning on financial decision-making: Evidence from undergraduate corporate finance courses. *International Journal of Educational Research*, 117, 102116. https://doi.org/10.1016/j.ijer.2022.102116

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https://doi.org/10.24191/gading.v28i2.646