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Drivers of case study method adoption in economics education: Evidence from universities in southern Vietnam

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Abstract

This study examines the factors associated with the adoption of the case study method in economics education and whether its adoption is associated with perceived learning effectiveness at universities in southern Vietnam. An exploratory sequential mixed-methods design combined interviews with 15 experts and a survey of 250 lecturers and students, analyzed using partial least squares structural equation modeling. Learning materials quality, lecturer competence, technological readiness, university governance, and student motivation and characteristics were positively associated with adoption. Learning materials quality and lecturer competence showed the strongest associations. However, adoption was not significantly associated with perceived learning effectiveness, and the proposed indirect relationships were unsupported. These findings distinguish conditions that encourage the use of case-based teaching from those required to improve learning. Universities should complement adoption initiatives with attention to case quality, instructional facilitation, student preparation, feedback, and assessment alignment. Future research should assess implementation quality and objective learning outcomes.

Keywords: Case study method; Higher education in Vietnam; Learning effectiveness; PLS-SEM

1. Introduction

In the context of globalization and digital transformation dramatically changing higher education, innovating teaching methods towards developing learners' competencies has become an inevitable trend. Globally, the case study method has been recognized as one of the most effective approaches to developing critical thinking, problem-solving abilities, and decision-making skills in students, especially in the fields of economics, management, and business (Herreid, 2007; Kim & Tatar, 2018; Li et al., 2023). International studies confirm that this method helps bridge the gap between theory and practice, promotes experiential learning (Kolb, 1984), enhances intrinsic motivation (Deci & Ryan, 1985), and encourages students to actively participate in the knowledge creation process (Vygotsky, 1978). Furthermore, the development of digital technology and online learning platforms has opened up new opportunities for the flexible application of this method in university training environments (Cho et al., 2023). However, even in many developed countries, barriers such as the lack of standardized case study materials, uneven pedagogical competence of lecturers, and limitations in class size remain significant challenges to widespread implementation (Wormald et al., 2009). Globally, case study teaching has been recognized as one of the most effective pedagogical tools in higher education, particularly in fields such as economics, management, medicine, and law. This method encourages learners to participate in solving practical situations, thereby developing critical thinking skills, analytical skills, and the ability to apply theory to practice (Doucet et al., 2009). International studies (Muraya & Kimamo, 2011; Scheepers & de Villiers, 2000) all indicate that applying CSM helps improve students' learning attitudes, learning outcomes, and group collaboration abilities. Simultaneously, studies by Badger

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(2010) and Shavit et al. (2010) also confirm that CSM contributes to bridging the gap between theory and practice, helping students develop critical thinking and self-learning skills. However, many scholars also acknowledge that the implementation of CSM still faces limitations. Wormald et al. (2009) argue that disparities in student proficiency, long preparation times, and the pedagogical competence of instructors are common obstacles. Hughes and Chen (2011) and Tärnvik (2007) add that building appropriate, up-to-date, and academically valuable scenarios is a significant challenge, requiring instructors with strong learning material design and classroom management skills. Meanwhile, Lyons (2009) emphasizes motivation and the learning environment, considering these as prerequisites for the effectiveness of CSM. Thus, internationally, studies affirm the positive role of CSM but also highlight the need for supporting conditions in terms of learning materials, instructor competence, technology, and educational policies.

In Vietnam, the trend of innovating teaching methods towards a learner-centered approach has been encouraged for over a decade; however, the application of case-based teaching methods in economics training programs remains quite limited (Nguyen & Tran, 2024; Pham, 2022). Most domestic studies only describe the application process or reflect practical experiences in a few individual subjects (Hoang, 2021), while quantitative studies evaluating factors influencing the level of application are still lacking. Prominent challenges include: (i) limited quality and timeliness of case-based learning materials; (ii) uneven technological capabilities and discussion facilitation skills among lecturers; (iii) university governance mechanisms that do not provide incentives for innovation in teaching methods; and (iv) learner characteristics still influenced by passive learning habits. In the context of universities undergoing a strong transformation towards digitalization and autonomy, identifying and analyzing factors influencing the applicability of case-based teaching methods is not only theoretically significant but also holds profound practical value. The research results will contribute to supplementing empirical evidence for the field of teaching method innovation in Vietnamese higher education, while providing a scientific basis for administrators, lecturers, and policymakers in promoting a positive, creative, and professionally connected learning environment. In Vietnam, research and application of case-based teaching methods have only developed in recent years and are mainly concentrated in the fields of pedagogy and language. Hoang (2019) reported that teachers and students perceived case studies as beneficial for teaching and learning English for Specific Purposes. However, the study also identified inconsistencies in the implementation of case studies across classrooms, particularly due to the absence of standardized instructional models and assessment criteria. Nguyen (2015) demonstrated the effectiveness of case study in Financial Accounting, helping learners apply accounting standards to real-world situations, while Hoang (2021) showed that lecturers in Vietnamese universities still face difficulties in terms of time, coordination skills, and support from the university. The work of Nguyen (2020) expanded the research on case study to law and political theory subjects, but mostly focused on describing the process and teaching experience, without quantifying the factors affecting its application.

This research lays the groundwork for identifying factors influencing the implementation of case study methods in teaching, impacting the learning effectiveness of economics students in the context of universities in southern Vietnam. It systematizes the theoretical and practical issues related to case study teaching methods in teaching and their impact on the learning effectiveness of economics students. This study identifies the factors influencing the implementation of case study methods in teaching, their impact on the learning effectiveness of economics students, and measures the degree of influence of each factor. It proposes several suggestions to help implement case study methods in teaching economics students. The research has scientific significance and novelty in three main aspects.

Firstly, theoretically, the study has developed and tested a five-factor model (quality of teaching materials, lecturer competence, technological readiness, university governance perspective, and student characteristics) that influences the application of case study teaching methods in economics education. This model integrates several foundational theories such as social constructivism, experiential learning, self-determination, technology acceptance, and university

governance, thereby filling a research gap in the field of innovative teaching methods in Vietnam.

Secondly, in terms of methodology, the study uses a mixed design, combining qualitative and quantitative methods, in which survey data from 250 faculty and students are analyzed using a PLS-SEM structural model, ensuring the reliability and empirical validity of the results.

Thirdly, in terms of practical application, the study provides the first evidence in the Vietnamese context on the impact of learning materials, technology, and university governance on the applicability of the case study method, while also proposing governance and policy implications to help universities improve the quality and effectiveness of teaching towards developing learners' competencies.

The study contributes an integrated people–technology–organization framework for CSM adoption in economics education. Empirically, it compares the relative influence of five antecedents in an under-researched higher-education context. It also contributes a cautionary finding: the model explains CSM adoption moderately well but does not explain perceived learning effectiveness. Rather than treating adoption as equivalent to effectiveness, the study identifies conditions that may need to be aligned before CSM can plausibly translate into measurable learning gains.

This study addresses these theoretical, empirical, and contextual gaps by examining universities in southern Vietnam. It asks: (1) How are learning materials quality, lecturer competence, technological readiness, university governance, and student learning characteristics and motivation associated with CSM adoption? (2) Is reported CSM adoption associated with perceived learning effectiveness? and (3) Does CSM adoption transmit the effects of its antecedents to perceived learning effectiveness? Accordingly, the study aims to identify the principal drivers of adoption, test the CAS–LEF and indirect relationships, and derive implications that remain proportionate to the empirical results.

The research problem is therefore twofold. First, prior studies rarely integrate individual, technological, and institutional antecedents in a single model suitable for the Vietnamese context. Second, evidence that CSM is used does not necessarily demonstrate that it improves learning. The distinction is important because implementation frequency may coexist with weak cases, limited student preparation, misaligned assessment, or inconsistent facilitation. A model that explains adoption well may consequently explain learning effectiveness poorly.

In Vietnamese economics education, universities have encouraged active learning, yet CSM implementation remains uneven. Existing domestic research is largely descriptive, subject-specific, or based on teaching experience (Hoang, 2021; Nguyen & Tran, 2024; Pham, 2022). Consequently, universities lack comparative evidence about which material, human, technological, organizational, and learner-related conditions are most strongly associated with CSM adoption. This evidence gap is consequential: without it, investments in digital infrastructure, case repositories, lecturer development, and teaching incentives may be poorly targeted, while frequent use of cases may be mistaken for effective learning.

Higher education increasingly emphasizes learner-centered teaching that develops students' capacity to analyze ambiguous problems and apply theory in practice. The Case Study Method (CSM) is widely used for these purposes because it organizes learning around realistic decisions, discussion, reflection, and collaborative problem solving (Herreid, 2007; Kim & Tatar, 2018; Kolb, 1984; Vygotsky, 1978). Digital platforms have also expanded the range of settings in which cases can be prepared, discussed, and assessed (Cho et al., 2023; Li et al., 2023). Nevertheless, CSM does not generate learning benefits automatically. Its value depends on the quality and relevance of cases, lecturers' facilitation competence, students' preparation and motivation, technological support, and institutional incentives (Hughes & Chen, 2011; Wormald et al., 2009). Recent pedagogical research also cautions against treating the use of an instructional approach as equivalent to demonstrated learning gains. Ramazanova et al. (2024) reported benefits of a case-based approach to thesis preparation, while Aina and Aina (2023) emphasized teachers' engagement and interest as conditions for implementing videocase-based professional learning. Preece (2024) examined collaborative case-related activities and student perceptions of

communication development. Together, these studies suggest that case design, learner engagement, and facilitation may condition educational benefits. Unlike studies focusing primarily on instructional outcomes, the present study separately examines the antecedents of case study method adoption and its association with perceived learning effectiveness in Vietnamese economics education.

2. Literature Review and Research Hypotheses

2.1. Literature Review

Globally, case study teaching methods have been widely developed and applied since the beginning of the 20th century, especially at business and management schools such as Harvard, Stanford, and INSEAD. Empirical studies confirm that case study teaching contributes to the development of critical thinking, decision-making abilities, and the ability to connect theoretical knowledge with practical contexts. Flyvbjerg (2006) argues that case analysis helps learners handle complex and uncertain problems. Doucet et al. (2009) shows that case study discussions increase learning motivation, memory capacity, and learning outcomes. Besides its effectiveness for learners, studies also emphasize the role of the teacher and the organizational context as prerequisites for case study teaching to be effective. November et al. (2010) view instructors as "guides," promoting cooperative and self-directed learning. Scheepers and de Villiers (2000) emphasize pedagogical competence and classroom management skills as conditions for maintaining effective discussion. Alam et al. (2010) and Muraya and Kimamo (2011) show that when learning through case studies, students significantly improve their social, communication, and collaborative skills; while Wormald et al. (2009) and Tärnvik (2007) warn of quality risks if there is a lack of preparation in terms of learning materials, time, and instructor competence, especially in large classes. Recent research trends shift from simply measuring effectiveness to analyzing the factors influencing the applicability and success of CSM in the context of digitized higher education. Li et al. (2023) and Cho et al. (2023) emphasize the technological readiness and faculty awareness of the usefulness of CSM as a bridge between school policy and teaching behavior. Studies in Asia, such as Kim and Tatar (2018) in South Korea and Nguyen et al. (2024) in Vietnam, point to the role of academic culture, technological infrastructure, and supportive policies in determining the feasibility of implementing the case study method. This suggests that CSM needs to be approached as an educational innovation model influenced simultaneously by people, technology, and organization.

However, much of the empirical evidence remains concentrated in developed countries, where infrastructure, faculty qualifications, and academic culture are more favorable than in developing countries like Vietnam. In Vietnam, studies on CSM are mainly descriptive of practices or share experiences, with few works building comprehensive theoretical models and quantitatively testing the relative roles of influencing factors (Hoang, 2021; Nguyen & Tran, 2024; Pham, 2022). The prominent gaps lie in: (i) a lack of theoretical models that simultaneously consider individual factors (lecturers, students), organizational factors (university governance), and supporting conditions (learning materials, technology); (ii) a lack of quantitative evidence to test the extent of influence of each factor; and (iii) a lack of in-depth research for the Economics sector – a field requiring high analytical and application skills. From this, three main "gaps" can be summarized: a theoretical gap (lack of integrated multi-theory models connecting people – technology – organizations); an empirical gap (lack of quantitative testing in the Vietnamese context); and contextual gaps (lack of research for the Economics field). Filling these gaps not only supplements the theoretical basis for innovative teaching methods but also has practical significance in improving the quality of training towards developing learners' competencies in the context of digital transformation and university autonomy in Vietnam.

Social constructivism posits that knowledge is constructed through social interaction rather than one-way transmission. In the context of CSM, students develop understanding and critical thinking skills through discussion, debate, and collaborative analysis of real-world situations (Yadav & Koehler, 2007). This theory clarifies the role of a collaborative learning environment,

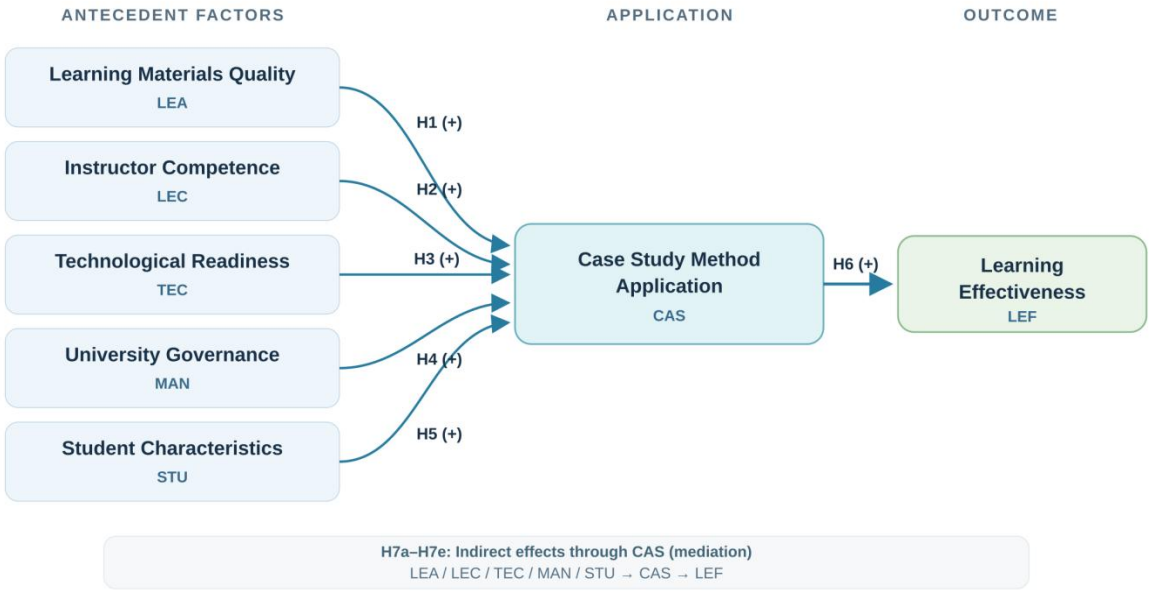
faculty-student interaction, and social learning motivation in the effectiveness of applying the case study method in economics classes. Kolb (1984) views learning as a cycle consisting of four stages: concrete experience, reflection, generalization, and application. The case study teaching method fully reflects this cycle: students analyze real-world situations, reflect on the problem, draw generalized lessons, and apply them to similar contexts. This theory explains why CSM helps connect theory with practice, develop professional skills, and improve learning effectiveness in Economics, Management, and Finance-Banking (Herreid, 2007; Kim & Tatar, 2018). Self-determination theory identifies autonomy, competence, and relatedness as three basic psychological needs (Deci & Ryan, 2000). When learners are empowered to participate, feel competent, and have positive connections, intrinsic motivation is strengthened. In this study, SDT theory explains the learning motivation of economics students when participating in case studies, while also emphasizing the role of instructors and a positive classroom environment in stimulating that motivation (Pham, 2022; Yadav & Koehler, 2007). According to TAM, technology acceptance depends on perceived usefulness (PU) and ease of use (PEOU). In the context of digital transformation in education, CSM is increasingly being implemented on platforms such as LMS, Zoom, and Google Classroom. The TAM model helps explain why the technological readiness of faculty and students affects the effective application of CSM, especially in online or blended learning classes (Cho et al., 2023; Li et al., 2023). University governance perspectives emphasize the influence of management policies, organizational culture, support mechanisms, and infrastructure on teaching innovation. Universities with policies encouraging innovation, faculty training programs, and investments in learning materials and facilities will create favorable conditions for CSM adoption (Kim & Tatar, 2018; Marginson, 2011; Pham, 2022). In summary, this study integrates theories of social constructivism and experiential learning (explaining the mechanisms of knowledge construction), self-determination (explaining learning motivation), TAM (the role of technology), and university governance (institutional perspective). This integration forms a comprehensive theoretical framework for measuring, testing, and predicting the level of CSM application in Vietnamese universities, particularly in the economics field.

Based on foundational theories (Davis, 1989; Deci & Ryan, 1985; Kolb, 1984; Marginson, 2011; Vygotsky, 1978) and research overview, the proposed model includes five input factors affecting the level of application of case-based teaching methods (CAS), thereby influencing learning effectiveness (LEF): Learning materials quality (LEA): the completeness, timeliness, relevance, and thinking-stimulating ability of the situation (Herreid, 2007; Kim & Tatar, 2018); Instructor competence and readiness (LEC): professional qualifications, pedagogical skills, experience, and innovative attitude (Doucet et al., 2009; Nguyen & Tran, 2024); Technological readiness (TEC): the ability to apply digital platforms to support teaching (LMS, Zoom, Moodle, Google Classroom); University governance perspectives and policies (MAN): innovation orientation, support mechanisms, and academic culture (Marginson, 2011; Pham, 2022); Student learning characteristics and motivations (STU): levels of initiative, self-learning, collaboration, and intrinsic motivation (Deci & Ryan, 1985; Nguyen & Tran, 2024).

2.2. Conceptual Framework

Figure 1 distinguishes antecedents of adoption from learning outcomes. Social constructivism and experiential learning explain why interaction with realistic cases may support knowledge construction; self-determination theory explains the role of learner motivation; TAM captures technological readiness; and the university governance perspective captures organizational support. Their integration is not intended to imply that adoption alone guarantees learning. Instead, it enables separate tests of (a) the conditions associated with CAS and (b) whether CAS is associated with LEF in this sample.

Figure 1
Proposed conceptual framework



Based on the proposed conceptual framework, the study examined the relationships among the variables and tested the proposed hypotheses (H1–H7) to determine the factors influencing the application of the case study method and its association with learning effectiveness.

H1: The quality of learning materials (LEA) has a positive impact on the level of application of case study teaching methods (CAS).

According to Experiential Learning Theory (Kolb, 1984), case study materials that are practical and challenging are a prerequisite for active learner participation, thereby encouraging instructors to use CSM more frequently (Herreid, 2007; Kim & Tatar, 2018).

H2: The competence of instructors (LEC) has a positive influence on CAS.

From the perspective of Social Constructivism (Vygotsky, 1978), instructors are facilitators of interaction and critical thinking; their professional competence, pedagogical skills, and innovative attitude determine the level of CSM implementation (Doucet et al., 2009; Nguyen & Tran, 2024).

H3: The level of technological readiness (TEC) has a positive impact on CAS.

According to TAM (Davis, 1989), when faculty and students perceive technology supporting CSM as useful and easy to use, they will be more proactive in adopting it (Cho et al., 2023; Li et al., 2023).

H4: University governance (MAN) has a positive influence on CAS.

University governance theory (Marginson, 2011) suggests that incentive policies, evaluation mechanisms, and infrastructure investment create a favorable environment for innovation in teaching methods (Pham, 2022).

H5: Student characteristics and learning motivations (STU) have a positive impact on CAS.

According to Self-Determination Theory (Deci & Ryan, 1985), students with high intrinsic motivation, self-learning ability, and good cooperative spirit will actively participate in case studies, thereby promoting the frequency and level of application of CSM (Nguyen & Tran, 2024).

H6: The level of application of CSM (CAS) has a positive impact on learning effectiveness (LEF).

In line with Experiential Learning Theory (Kolb, 1984) and Social Constructivism (Vygotsky, 1978), learning through case analysis helps connect theory and practice and develop thinking and decision-making skills; many studies have shown that CSM enhances learning effectiveness compared to traditional methods (Entwistle & Ramsden, 2015; Herreid, 2007; Kim & Tatar, 2018).

H7a–H7e: CAS acts as an intermediary in the relationships:

LEA → CAS → LEF; LEC → CAS → LEF; TEC → CAS → LEF; MAN → CAS → LEF; STU → CAS → LEF

Input factors do not act directly but mainly through the application of CSM; this is consistent

with the Input–Process–Output model (Biggs, 1999), in which learning outcomes are the product of the interaction between input conditions and the learning process.

3. Methodology

3.1. Research Design

This study employed an exploratory sequential mixed-methods design to investigate the factors influencing the adoption of the Case Study Method (CSM) and its relationship with perceived learning effectiveness in economics education at universities in southern Vietnam. The research was conducted between March and July 2025 and comprised two consecutive phases.

The qualitative phase involved semi-structured interviews with experts to assess the theoretical relevance, contextual appropriateness, and clarity of the proposed constructs and measurement items. The findings informed the refinement of the conceptual framework and the development of the quantitative questionnaire.

The quantitative phase employed a cross-sectional survey of lecturers and students in economics-related programs. Data from 250 valid responses were analyzed using partial least squares structural equation modeling (PLS-SEM) to evaluate the measurement model and examine the hypothesized direct and indirect relationships.

This design integrated theoretical foundations with contextual insights and empirical testing, allowing the study to distinguish between factors associated with CSM adoption and its relationship with perceived learning effectiveness.

3.2. Participants and Qualitative Data Collection

The qualitative phase involved 15 experts selected based on their professional experience in higher education, economics teaching, and instructional innovation. Participants included eight university lecturers, four academic administrators, and three specialists in teaching methodology.

Semi-structured interviews explored the feasibility of CSM implementation, factors facilitating or constraining its adoption, and the relevance of the proposed measurement constructs. Participants also evaluated the clarity, comprehensibility, and contextual appropriateness of the preliminary questionnaire items adapted from previous studies.

Interview data were recorded, coded, and analyzed to identify recurring themes and recommendations for measurement refinement. The findings supported five principal antecedents of CSM adoption: learning materials quality, lecturer competence, technological readiness, university governance, and student characteristics and motivation. Based on expert feedback, two overlapping measurement items were removed, and seven items were reworded to improve clarity and contextual relevance. Consequently, the preliminary instrument containing 30 observed variables was refined to 28 items for subsequent quantitative assessment.

The research sample consisted of 250 valid survey responses, collected from lecturers and students of economics-related majors at universities in Southern Vietnam (including Ho Chi Minh City, Binh Duong, Dong Nai, and Can Tho). The descriptive statistics in Table 2 show that, in terms of academic fields, Management (23.6%) and Finance - Banking - Insurance (18.4%) accounted for the highest proportion, reflecting the widespread application of case-based teaching methods in specialized courses. In terms of age, the group under 25 years old accounted for 41.6%, representing a large proportion of students, while the 35-45 age group (28.0%) represented a significant number of experienced lecturers. Regarding the number of experiences with the case study method, nearly half of the participants (49.6%) reported having had 5–10 experiences, indicating a relatively high level of familiarity with this learning method. The sample provides variation in academic field, age, and prior experience with CSM. However, because convenience sampling was used, it should not be considered statistically representative of all lecturers and students at universities in southern Vietnam.

Table 2
Survey sample statistics

Sample characteristics and classification	*Frequency (f)*	*Percentage (%)*
Field of study		
Business	42	16.8
Finance – Banking – Insurance	46	18.4
Accounting – Auditing	30	12.0
Administration – Management	59	23.6
Economics	25	10.0
Political Economy	29	11.6
Other	19	7.6
Age		
Under 25 years old	104	41.6
Ages 25–35	33	13.2
Ages 35–45	70	28.0
Over 45 years old	43	17.2
Number of experiences with the case study method		
Less than 5 times	57	22.8
5–10 times	124	49.6
More than 10 times	69	27.6

The descriptive data show that survey participants have a relatively uniform level of access to and experience with the case study method, especially concentrated among students and lecturers in the Management and Economics fields. This indicates a suitable database for testing the model of factors influencing the application and effectiveness of case study teaching methods in the Economics sector in Vietnam.

3.3. Instrument Development and Quantitative Data Collection

The measurement instrument was developed by adapting established theoretical constructs and measurement items from previous studies, including Herreid (2007), Kim and Tatar (2018), Li et al. (2023), and Cho et al. (2023). The initial framework incorporated five antecedent constructs: learning materials quality (LEA), lecturer competence (LEC), technological readiness (TEC), university governance (MAN), and student characteristics and motivation (STU).

Learning materials quality reflects the clarity, practical relevance, and capacity of case materials to stimulate critical thinking (Herreid, 2007; Kim & Tatar, 2018). Lecturer competence captures subject knowledge, facilitation skills, feedback, and practical teaching experience (Biggs, 1999; Li et al., 2023). Technological readiness concerns the availability and use of digital resources supporting instructional activities (Cho et al., 2023; Davis, 1989). University governance reflects institutional support, teaching innovation policies, and academic culture (Marginson, 2011; Pham, 2022). Student characteristics and motivation encompass preparation, confidence, collaboration, and active participation (Deci & Ryan, 1985; Nguyen & Tran, 2024).

CSM adoption (CAS) was specified as the mediating construct, reflecting the reported frequency, integration, and classroom application of case-based teaching. Perceived learning effectiveness (LEF) was specified as the outcome construct, capturing students' perceived knowledge acquisition, practical application, skill development, and learning engagement. Table 1 summarizes the measurement constructs, observed variables, and their supporting references.

Following qualitative refinement, the 28-item questionnaire was prepared bilingually and checked through back-translation to improve semantic equivalence. A pilot test involving 30 participants, including 15 lecturers and 15 students, was conducted to assess item clarity, response time, and preliminary reliability. Cronbach's alpha coefficients exceeded .75, indicating acceptable internal consistency at the pilot stage.

Table 1
Summary of measurement scales for research variables in the model

Factor code and scale content (observed variables)	*Source of reference*
LEA (Learning Materials Quality)	
LEA1. Case studies provide clear and easily understandable information.	Herreid (2007); Kim and Tatar (2018); Nguyen and Tran (2024)
LEA2. Case studies reflect real-world situations in Vietnam.	
LEA3. Learning materials help learners connect theory and practice.	
LEA4. Learning materials stimulate critical thinking and group discussion.	
LEC (Lecturers' Competence)	
LEC1. Instructors possess strong subject matter knowledge.	Biggs (1999); Entwistle and Ramsden (2015); Li et al. (2023)
LEC2. Instructors have the skills to facilitate and lead case study discussions.	
LEC3. Instructors provide timely feedback and guidance to students.	
LEC4. Instructors have practical experience relevant to the teaching content.	
TEC (Technological Readiness)	
TEC1. The training facility provides adequate equipment and learning support platforms.	Davis (1989) – TAM; Li et al. (2023); Cho et al. (2023)
TEC2. Instructors and students are proficient in using learning technology.	
TEC3. Technology helps increase interaction between instructors and students.	
TEC4. I find that using technology makes learning more effective.	
MAN (University Governance)	
MAN1. The school has a policy of encouraging innovation in teaching methods.	Marginson (2011); Pham (2022)
MAN2. School leaders create conditions for faculty to apply CSM.	
MAN3. The school regularly organizes training on new teaching methods.	
MAN4. The school's academic culture emphasizes creativity and collaboration in teaching.	
STU (Students' Motivation and Characteristics)	
STU1. I proactively researched the case study content before the lesson.	Deci and Ryan (1985); Nguyen and Tran (2024)
STU2. I felt confident participating in group discussions.	
STU3. I actively collaborated with classmates in solving the case study.	
STU4. I felt that the case study method helped me develop my professional skills.	
CAS (Application of Case Study Method)	
CAS1. Instructors frequently use case studies in their teaching.	Herreid (2007); Doucet et al. (2009); Kim and Tatar (2018)
CAS2. Students are encouraged to actively participate in class sessions.	
CAS3. Case studies are integrated into specialized courses.	
CAS4. The use of case studies makes the classroom more dynamic and effective.	
LEF (Learning Effectiveness)	
LEF1. I gained a deeper understanding of the learning content through real-world scenarios.	Kolb (1984); Biggs (1999); Entwistle and Ramsden (2015)
LEF2. I can apply the knowledge I've learned to solve practical problems.	
LEF3. The case study method helps me develop critical thinking and decision-making skills.	
LEF4. I feel more engaged and proactive in my learning process.	

The final questionnaire employed a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Of the 280 questionnaires distributed, 250 valid responses were retained for analysis. Participants were lecturers and adult students from economics-related programs at universities in southern Vietnam.

Convenience sampling within broad participant strata was used to obtain variation in academic fields, age groups, and previous experience with CSM. Both lecturers and students were included because the study examined a shared instructional environment from teaching and learning perspectives. However, pooling their responses assumes measurement comparability across participant roles. As subgroup sizes did not support a sufficiently powered multigroup analysis, potential differences between lecturers and students were not estimated. The non-probability

sampling approach also limits the generalizability of the findings.

3.4. Data Analysis

Data were screened and summarized using SPSS 26.0, while the measurement and structural models were evaluated using SmartPLS 4. PLS-SEM was selected because the study focused on explaining CSM adoption, examined multiple latent constructs and indirect relationships, and tested an integrated conceptual model in a relatively underexplored educational context.

The analysis proceeded in several stages. First, preliminary reliability and exploratory factor analyses were conducted to assess the measurement items. Second, the PLS-SEM measurement model was evaluated using indicator loadings, Cronbach's alpha, composite reliability, and average variance extracted. Discriminant validity was examined using the Fornell–Larcker criterion and the heterotrait–monotrait ratio.

Third, the structural model was assessed for collinearity using variance inflation factors, explanatory power using the coefficient of determination, and predictive relevance using the reported Q^2 statistic. Finally, bootstrapping was employed to assess the statistical significance of the hypothesized direct and specific indirect relationships (H1–H7e).

Potential common method bias was addressed through procedural and statistical measures. Participation was voluntary and anonymous, neutral wording was used, and respondents were informed that there were no correct or preferred answers. Harman's single-factor test was also conducted using the 27 measurement items retained after the removal of LEF3. All items were entered into an unrotated principal component analysis with one factor specified for extraction. The results are presented in the Research Results section.

3.5. Ethical Considerations

This study involved adult participants in expert interviews and an anonymous questionnaire survey. All participants were aged 18 years or older and provided informed consent before participating in the research.

Written informed consent was obtained from interview participants through signed consent forms. For the quantitative survey, an electronic consent statement was presented at the beginning of the questionnaire. Respondents were informed about the research purpose, voluntary participation, confidentiality, anonymity, and their right to withdraw without consequences. Only those who selected the option "I agree to participate in this research" were permitted to proceed with the questionnaire.

No personally identifiable information was collected. Research data were anonymized, securely stored, and accessible only to the research team. The study was conducted in accordance with applicable national regulations and accepted ethical principles for research involving human participants.

4. Results

4.1. Model Evaluation

4.1.1. Reliability and convergent validity testing

The results presented in Table 3 confirm that all constructs demonstrate satisfactory internal consistency reliability and convergent validity. Cronbach's alpha values range from .733 to .926, exceeding the recommended threshold of .70. Similarly, composite reliability values range from .819 to .947, which are above the minimum acceptable level of .70, indicating adequate consistency among the indicators measuring each construct. Furthermore, the average variance extracted values range from .555 to .819, and all exceed the recommended threshold of .50. Therefore, each construct explains more than 50% of the variance in its respective indicators, supporting convergent validity.

Notably, after the removal of the poorly performing indicator LEF3, the reliability and convergent validity of the Learning Effectiveness construct improved substantially. Specifically, Cronbach's alpha, composite reliability, and AVE for LEF reached .759, .819, and .607, respectively.

These results indicate that the refined LEF scale satisfies the recommended measurement-quality criteria. Overall, all constructs in the revised measurement model meet the requirements for internal consistency reliability and convergent validity and can therefore be retained for subsequent discriminant-validity and structural-model assessments.

Table 3
Reliability and convergent validity assessment

Structure	*Cronbach's Alpha*	*Composite reliability (CR)*	*The average variance extracted (AVE)*
CAS	.926	0.947	0.819
LEA	.904	0.933	0.776
LEC	.886	0.921	0.744
LEF	.759	0.819	0.607
MAN	.893	0.926	0.757
STU	.733	0.832	0.555
TEC	.895	0.926	0.759

4.1.2. Discriminant validity test

The results of the Fornell–Larcker assessment presented in Table 4 support the discriminant validity of the measurement model. The square roots of the AVE values, shown on the main diagonal, range from .745 to .905. For each construct, the square root of AVE is greater than its correlations with all other constructs in the corresponding row and column. For example, the diagonal value for LEF is .779, which exceeds the absolute values of its correlations with CAS (−.152), LEA (.041), LEC (.064), MAN (−.147), STU (−.106), and TEC (−.046).

Similarly, the diagonal values for CAS (.905), LEA (.881), LEC (.863), MAN (.870), STU (.745), and TEC (.871) are consistently higher than their respective inter-construct correlations. The relatively low correlations among the constructs also indicate that they capture conceptually distinct dimensions. Therefore, the Fornell–Larcker criterion is satisfied for all constructs, confirming adequate discriminant validity (Fornell & Larcker, 1981). Together with the satisfactory internal consistency reliability and convergent validity reported in Table 3, these results support the suitability of the revised measurement model for subsequent structural-model assessment.

Table 4
Discriminant validity test (Fornell-Larcker criterion)

	CAS	*LEA*	*LEC*	*LEF*	*MAN*	*STU*	*TEC*
CAS	0.905						
LEA	0.376	0.881					
LEC	0.383	0.095	0.863				
LEF	–0.152	0.041	0.064	0.779			
MAN	0.292	–0.065	0.198	–0.147	0.870		
STU	0.234	0.132	0.125	–0.106	0.026	0.745	
TEC	0.237	–0.013	–0.057	–0.046	0.008	0.054	0.871

The outer loading results presented in Table 5 indicate that the revised measurement model achieves generally satisfactory indicator reliability. Following the removal of LEF3, the remaining outer loadings range from .623 to .952. Most indicators have loadings above the recommended threshold of .70, demonstrating that they adequately represent their respective latent constructs. In particular, all indicators of CAS, LEA, LEC, MAN, and TEC exhibit strong outer loadings, ranging from .813 to .952.

Three indicators have outer loadings slightly below .70: LEF1 (.623), STU2 (.681), and STU3 (.685). However, these values remain above the minimum acceptable threshold of .40 and fall within the range of .40–.70, in which indicators may be retained when their removal is not theoretically justified and the corresponding constructs satisfy the requirements for composite reliability and convergent validity. As shown in Table 3, LEF has a composite reliability of .819 and an AVE of .607, while STU has a composite reliability of .832 and an AVE of .555. Both constructs

therefore exceed the recommended thresholds of .70 for composite reliability and .50 for AVE.

Accordingly, LEF1, STU2, and STU3 were retained to preserve the conceptual coverage of their respective constructs. Overall, the revised indicator set demonstrates acceptable indicator reliability and supports the suitability of the measurement model for subsequent discriminant-validity and structural-model assessments.

Table 5
Outer loading coefficients of observed variables in the scales

	CAS	*LEA*	*LEC*	*LEF*	*MAN*	*STU*	*TEC*
CAS1	0.869						
CAS2	0.912						
CAS3	0.884						
CAS4	0.952						
LEA1		0.857					
LEA2		0.872					
LEA3		0.900					
LEA4		0.895					
LEC1			0.884				
LEC2			0.819				
LEC3			0.883				
LEC4			0.863				
LEF1				0.623			
LEF2				0.769			
LEF4				0.917			
MAN1					0.916		
MAN2					0.864		
MAN3					0.813		
MAN4					0.885		
STU1						0.837	
STU2						0.681	
STU3						0.685	
STU4						0.766	
TEC1							0.886
TEC2							0.866
TEC3							0.824
TEC4							0.907

The results of the Heterotrait–Monotrait ratio assessment presented in Table 6 provide further evidence of discriminant validity. The HTMT values range from .037 to .413, substantially below both the conservative threshold of .85 and the more liberal threshold of .90 recommended by Henseler et al. (2015). The highest HTMT value is observed between CAS and LEC (.413), followed by CAS and LEA (.406); nevertheless, both values remain well below the recommended cut-off.

The HTMT values involving the revised LEF construct are also low, ranging from .047 to .186. Specifically, the HTMT values between LEF and CAS, LEA, LEC, MAN, STU, and TEC are .125, .085, .101, .186, .146, and .047, respectively. These results indicate that LEF remains empirically distinct from the other constructs after the removal of LEF3.

Overall, none of the construct pairs exhibits an HTMT value suggesting inadequate discriminant validity or substantial conceptual overlap. Combined with the Fornell–Larcker results reported in Table 4, the HTMT assessment confirms that all constructs in the revised measurement model measure empirically distinct concepts. Therefore, the measurement model satisfies the discriminant-validity requirements and is suitable for subsequent structural-model analysis.

Table 6
Discriminant validity assessment using the HTMT criterion

	CAS	*LEA*	*LEC*	*LEF*	*MAN*	*STU*	*TEC*
CAS							
LEA	0.406						
LEC	0.413	0.099					
LEF	0.125	0.085	0.101				
MAN	0.313	0.090	0.211	0.186			
STU	0.272	0.162	0.152	0.146	0.063		
TEC	0.253	0.052	0.103	0.047	0.037	0.105	

4.2. Structural Model Evaluation

4.2.1. Multicollinearity assessment

The results of the Variance Inflation Factor (VIF) test presented in Table 7 show that all VIF values are less than 3, ranging from 1.008 to 1.071. According to the recommendation of Hair et al. (2018), multicollinearity is considered negligible when VIF < 5, and the best acceptable level is VIF < 3. Thus, the analysis results show no multicollinearity among the independent variables in the model.

Table 7
Statistical values of Variance Inflation Factor (VIF)

	CAS	*LEA*	*LEC*	*LEF*	*MAN*	*STU*	*TEC*
CAS				1.000			
LEA	1.032						
LEC	1.071						
LEF							
MAN	1.049						
STU	1.035						
TEC	1.008						

This ensures that the underlying structures in the model do not overlap with linear information, while also confirming the stability and reliability of the regression estimates in the PLS-SEM structural model.

Because the data for the predictor and outcome constructs were collected through the same questionnaire, procedural and statistical measures were employed to address potential common method bias. Participation was voluntary and anonymous, respondents were informed that there were no correct or preferred answers, and neutral wording was used throughout the questionnaire. In addition, Harman's single-factor test was performed using all 27 measurement items retained after the removal of LEF3. The items were entered simultaneously into an unrotated principal component analysis, with a single factor specified for extraction.

The results showed that the first factor had an eigenvalue of 5.561 and explained 20.595% of the total variance (see Table 8). This proportion is substantially below the commonly applied threshold of 50%, indicating that no single factor accounted for the majority of the variance in the measurement items. Therefore, common method bias was unlikely to materially affect the estimated relationships in the model. Nevertheless, because Harman's single-factor test is a

Table 8
Results of Harman's single-factor test

Test	*Number of retained items*	*First-factor eigenvalue*	*Variance explained*	*Threshold*	*Assessment*
Harman's single-factor test	27	5.561	20.595%	< 50%	No serious common method bias

diagnostic procedure rather than definitive proof of the absence of method bias, the results should be interpreted together with the procedural safeguards applied during data collection.

4.2.2. Assessing the explanatory power and predictive capacity of the research model

The results presented in Table 9 indicate substantial differences in the model's explanatory power and predictive relevance across the two endogenous constructs. For CAS, the model yields an R^2 value of .408 and an adjusted R^2 value of .396. Thus, learning materials quality, lecturer competence, university governance, student characteristics and motivation, and technological readiness collectively explain 40.8% of the variance in CSM adoption. This result indicates a moderate level of explanatory power. In addition, the Q^2 value for CAS is .323, which is well above zero and close to the benchmark of .35 for relatively strong predictive relevance. The model therefore demonstrates meaningful predictive relevance for CSM adoption.

In contrast, LEF has an R^2 value of .028 and an adjusted R^2 value of .019, indicating that CAS explains only 2.8% of the variance in perceived learning effectiveness. The explanatory power of the model for LEF is therefore very weak. Following the refinement of the LEF scale, its Q^2 value increased from a negative value to .002. Although this value is technically greater than zero, it remains below the indicative threshold of .02 for small predictive relevance. Consequently, the model demonstrates only negligible predictive relevance for LEF.

Overall, the model performs adequately in explaining and predicting CSM adoption but remains limited in explaining and predicting perceived learning effectiveness. The positive but near-zero Q^2 value for LEF should not be interpreted as evidence of meaningful predictive capacity. Instead, it suggests that learning effectiveness is likely influenced by additional factors not included in the current model, such as implementation fidelity, student engagement, quality of lecturer feedback, alignment between case-based activities and assessment methods, and students' prior learning abilities. Future studies should incorporate these mechanisms and use objective or performance-based learning measures to improve the explanatory and predictive performance of the model for LEF.

Table 9
Explanatory power and predictive capacity of the research model

Structure	*R^2*	*Adjusted R^2*	*Q^2*
CAS	.408	.396	0.323
LEF	.028	.019	0.002

4.2.3. Hypothesis testing

Table 10 presents the results for six direct relationships and five specific indirect relationships. Regarding the antecedents of CSM adoption, all five proposed direct effects on CAS are positive and statistically significant. Learning materials quality has the strongest effect on CAS (LEA → CAS: $\beta = .350$, $t = 7.499$, $p < .001$), followed by lecturer competence (LEC → CAS: $\beta = .298$, $t = 6.042$, $p < .001$). University governance (MAN → CAS: $\beta = .250$, $t = 4.791$, $p < .001$) and technological readiness (TEC → CAS: $\beta = .249$, $t = 4.717$, $p < .001$) have effects of similar magnitude. Student characteristics and motivation also have a positive but comparatively smaller effect on CAS (STU → CAS: $\beta = .131$, $t = 3.145$, $p = .002$). Therefore, H1, H2, H3, H4, and H5 are supported.

In contrast, the effect of CSM adoption on perceived learning effectiveness is negative but statistically nonsignificant (CAS → LEF: $\beta = -.152$, $t = 1.334$, $p = .179$). Thus, H6 is not supported. The negative coefficient should not be interpreted as evidence that CSM reduces learning effectiveness because the relationship does not reach statistical significance. Rather, the result indicates that the present data do not provide sufficient evidence that greater reported adoption of CSM is associated with improved perceived learning effectiveness.

The specific indirect effects are also statistically nonsignificant. The indirect effects of learning materials quality ($\beta = -.053$, $t = 1.325$, $p = .185$), lecturer competence ($\beta = -.045$, $t = 1.336$, $p = .182$), university governance ($\beta = -.038$, $t = 1.243$, $p = .214$), student characteristics and motivation ($\beta = -.020$, $t = 1.147$, $p = .251$), and technological readiness ($\beta = -.038$, $t = 1.332$, $p = .183$) on LEF through

CAS are not significant. Accordingly, H7a–H7e are not supported, indicating that CAS does not mediate the relationships between the five antecedent factors and perceived learning effectiveness.

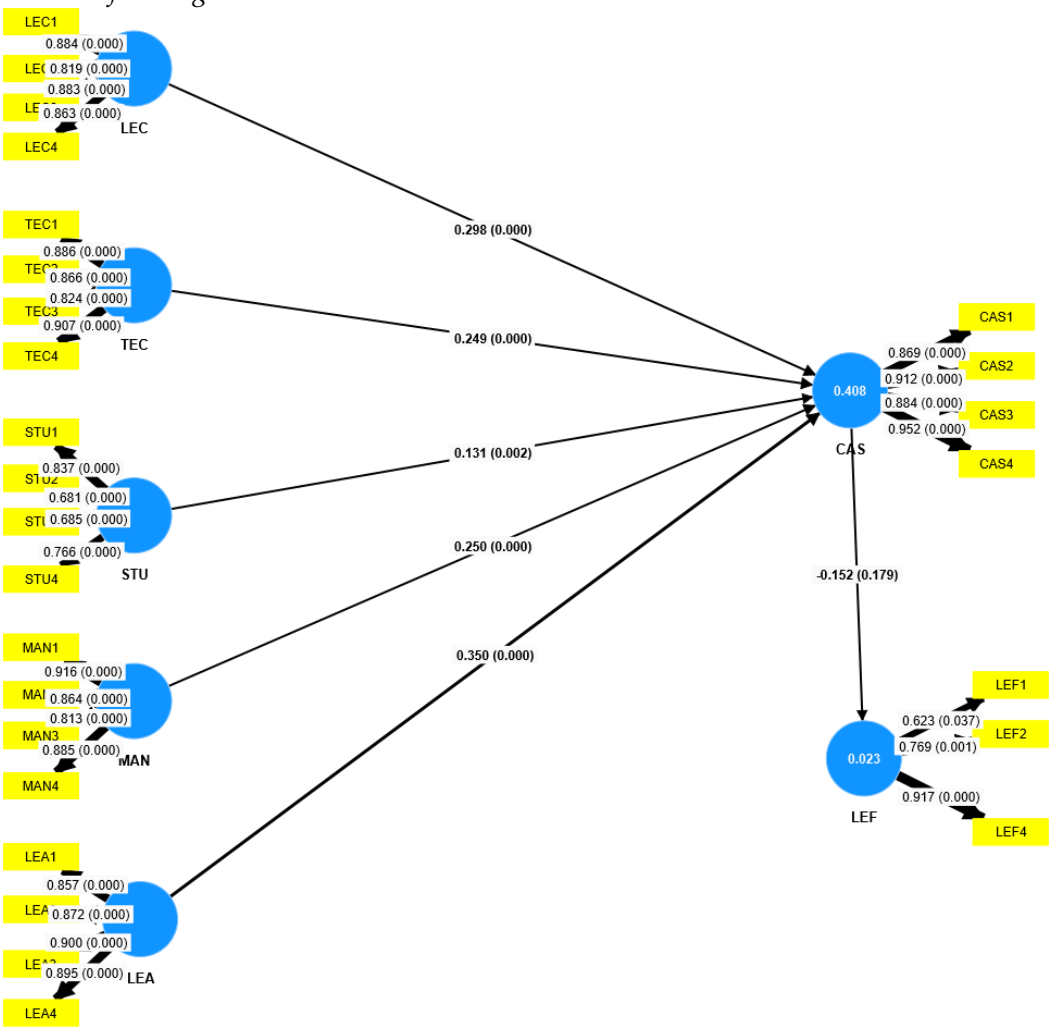
Overall, the revised results provide robust support for the proposed antecedents of CSM adoption but do not support the direct effect of CAS on LEF or the mediating role of CAS. The findings therefore distinguish clearly between the conditions that encourage the adoption of CSM and the mechanisms required to translate its adoption into improved learning outcomes.

Table 10
Results of Direct and Indirect Effects.

Hypothesis	*Relationship*	*β*	*SD*	*t*	*p*	*Decision*
H1	LEA → CAS	.350	0.047	7.499	<.001	Supported
H2	LEC → CAS	.298	0.049	6.042	<.001	Supported
H3	TEC → CAS	.249	0.053	4.717	<.001	Supported
H4	MAN → CAS	.250	0.052	4.791	<.001	Supported
H5	STU → CAS	.131	0.042	3.145	.002	Supported
H6	CAS → LEF	–.152	0.113	1.334	.179	Not supported
H7a	LEA → CAS → LEF	–.053	0.040	1.325	.185	Not supported
H7b	LEC → CAS → LEF	–.045	0.034	1.336	.182	Not supported
H7c	MAN → CAS → LEF	–.038	0.031	1.243	.214	Not supported
H7d	STU → CAS → LEF	–.020	0.017	1.147	.251	Not supported
H7e	TEC → CAS → LEF	–.038	0.028	1.332	.183	Not supported

Note. *β* = standardized path coefficient; *SD* = standard deviation; *t* = test statistic; *p* = significance level. Statistical significance was evaluated at the .05 level.

Figure 2
Results of testing the structural model



5. Discussion

The revised PLS-SEM results demonstrate a clear distinction between the factors promoting CSM adoption and the ability of CSM adoption to explain perceived learning effectiveness. As illustrated in Figure 2, all five antecedents have positive and statistically significant effects on CAS. However, the CAS → LEF relationship and the five specific indirect effects are not statistically significant. Thus, the model provides considerably stronger evidence regarding the conditions associated with CSM adoption than regarding its educational outcomes.

Learning materials quality has the strongest positive effect on CSM adoption. This finding is consistent with Herreid (2007), Nguyen and Tran (2024), and Pham (2022), who emphasize that the relevance, clarity, and practical value of case materials are essential to successful case-based teaching. From the perspective of Experiential Learning Theory, well-designed cases provide concrete experiences through which students can analyze problems, reflect on alternative solutions, and connect theoretical knowledge with practical decisions (Kolb, 1984). Therefore, lecturers may be more willing to adopt CSM when appropriate, current, and contextually relevant cases are available. Evidence from broader case-based learning research also suggests that the value of case materials depends on how they are integrated into an inquiry-oriented learning process. McLean (2016) describes the varied formats and learning outcomes of case-based education, while Thistlethwaite et al. (2012) document substantial heterogeneity in case design, exposure, group size, and outcome assessment. Although these reviews concern health professions rather than economics education, they support the interpretation that the availability of relevant cases is an important condition for adoption but is not, by itself, evidence of improved learning.

Lecturer competence has the second strongest effect on CAS. This result confirms that subject knowledge alone is insufficient for effective CSM implementation. Lecturers must also be capable of designing learning activities, facilitating discussion, asking analytical questions, managing diverse viewpoints, and providing timely feedback. The finding is consistent with Social Constructivism, which conceptualizes lecturers as facilitators who help learners construct knowledge through interaction, discussion, and collaborative problem-solving (Vygotsky, 1978). This interpretation is consistent with McLean (2016), who highlights variation in the delivery and evaluation of case-based learning across educational settings. For economics courses, the implication is that lecturer development should address not only familiarity with the method but also how instructors guide evidence-based argumentation, compare competing decisions, and help students transfer insights from a case to a new problem.

Technological readiness positively affects CSM adoption. Digital platforms and learning technologies can facilitate the distribution of case materials, group collaboration, information searching, presentation of solutions, and interaction between lecturers and students. This finding is consistent with the Technology Acceptance Model and previous research suggesting that perceived usefulness and ease of use encourage the integration of technology-supported teaching methods. Nevertheless, the coefficient indicates that technological infrastructure should be viewed as an enabling condition rather than as a substitute for appropriate case materials and lecturer competence.

University governance also has a positive and statistically significant effect on CAS. This result indicates that institutional policies, leadership support, lecturer training, resource allocation, and incentives for pedagogical innovation contribute to the adoption of case-based teaching. The finding is consistent with the university governance perspective, which suggests that teaching innovation depends not only on individual lecturers but also on an institutional environment that supports experimentation, collaboration, and professional development.

Student characteristics and motivation have a positive but comparatively smaller effect on CAS. Students who prepare before class, participate confidently, collaborate with their peers, and demonstrate intrinsic learning motivation create conditions that facilitate case-based teaching. This result is consistent with Self-Determination Theory, which emphasizes the importance of autonomy, competence, and relatedness in promoting active engagement. The smaller coefficient may indicate that lecturers and institutional conditions play a more immediate role in determining

whether CSM is adopted, whereas student characteristics primarily influence the quality of participation once the method has been implemented.

Contrary to the hypothesized relationship, CAS does not have a statistically significant effect on perceived learning effectiveness. Therefore, H6 is not supported. Although the coefficient is negative, it should not be interpreted as evidence that CSM reduces learning effectiveness because the relationship is statistically nonsignificant. The appropriate conclusion is that the current data do not provide sufficient evidence that greater reported adoption of CSM is associated with higher perceived learning effectiveness. This result differs from studies reporting positive learning outcomes from case-based teaching. One possible explanation is the difference between the frequency of adopting a teaching method and the quality of its implementation. Universities may encourage lecturers to use cases without ensuring that the cases are sufficiently authentic, challenging, and relevant or that case discussions are supported by appropriate preparation, facilitation, feedback, and assessment. Accordingly, increasing the use of CSM may not automatically improve learning unless its implementation is pedagogically coherent. The contrast with the wider literature should therefore be interpreted cautiously. A systematic review by Thistlethwaite et al. (2012) found that learners generally viewed case-based learning positively, but the comparative evidence for superior learning outcomes was inconclusive. By comparison, Freeman et al. (2014) reported improved achievement under active-learning approaches across undergraduate STEM studies; however, that synthesis examined a wider family of active-learning interventions and cannot establish the effectiveness of CSM in Vietnamese economics courses. Taken together, these findings indicate that neither positive perceptions nor evidence from other disciplines can replace a direct assessment of learning outcomes in the present context.

The pooled sample may also contribute to the nonsignificant relationship because lecturers and students evaluate different dimensions of the instructional process. Lecturers may assess the frequency and extent of CSM implementation, whereas students may focus on their engagement and perceived learning gains. In addition, perceived learning effectiveness may depend on factors not included in the model, such as prior knowledge, case difficulty, class size, group dynamics, feedback quality, assessment alignment, and implementation fidelity. An additional measurement consideration is that perceived learning and demonstrated learning need not coincide. In a controlled study of undergraduate physics instruction, Deslauriers et al. (2019) found that students in active-learning classrooms achieved greater learning while reporting a lower feeling of learning than students receiving passive instruction. This result does not explain the present nonsignificant coefficient directly, but it reinforces the need to evaluate CSM using both perception measures and independently assessed competencies, rather than treating perceived effectiveness as a proxy for achievement.

None of the specific indirect effects is statistically significant. The indirect effects of learning materials quality lecturer competence, university governance, student characteristics and motivation, and technological readiness on LEF through CAS are all unsupported. Therefore, H7a–H7e are not supported. The absence of mediation can be explained by the nonsignificant CAS → LEF relationship. Although the five antecedents promote CSM adoption, the present results do not show that adoption transmits their effects to perceived learning effectiveness. This finding qualifies the Input–Process–Output logic underlying the proposed mediation model. For CAS to function as an effective process mechanism, it may need to reflect implementation quality and fidelity rather than only the reported level or frequency of adoption.

The revised model explains 40.8% of the variance in CAS, with an adjusted R^2 of .396, demonstrating moderate explanatory power for CSM adoption. The Q^2 value of .323 further indicates meaningful predictive relevance for CAS. In contrast, the model explains only 2.8% of the variance in LEF. Although the revised Q^2 value for LEF is positive at .002, it remains below the indicative threshold of .02 and therefore represents negligible predictive relevance rather than meaningful predictive capacity.

Overall, the findings support the theoretical model concerning the antecedents of CSM adoption but do not support its proposed learning-effectiveness mechanism. The results suggest

that appropriate learning materials, lecturer competence, technological readiness, university governance, and student motivation can promote the use of CSM. However, adoption alone is insufficient to produce demonstrable improvements in perceived learning effectiveness. Future research should distinguish CSM frequency from implementation fidelity and incorporate mechanisms such as student engagement, feedback quality, assessment alignment, case complexity, and objective learning performance.

5.1. Theoretical Implications

The findings refine the theoretical distinction between pedagogical adoption and learning effectiveness. The significant effects of learning materials quality, lecturer competence, technological readiness, university governance, and student motivation on CAS support an integrated people–technology–organization perspective on teaching innovation. However, the unsupported CAS–LEF relationship indicates that adoption is not equivalent to effective implementation. This result qualifies the assumptions of Experiential Learning Theory and the Input–Process–Output framework in the present context: exposure to case-based teaching may provide opportunities for experiential learning, but learning gains depend on whether students engage in meaningful analysis, reflection, feedback, and knowledge application. Accordingly, future theoretical models should distinguish the frequency of CSM use from its implementation fidelity and pedagogical quality.

5.2. Practical Implications

The results suggest that universities should not evaluate teaching innovation solely through the reported frequency of CSM use. Priority should be given to developing contextually relevant case repositories, strengthening lecturers' facilitation and feedback skills, aligning case activities with assessment criteria, and using digital technologies to support interaction rather than merely distribute materials. Because LEA and LEC have the strongest effects on CAS, investments in case development and lecturer training should receive particular attention. At the same time, the nonsignificant CAS–LEF relationship indicates that universities should evaluate learning outcomes using performance-based indicators, such as case-analysis quality, problem-solving tasks, decision-making exercises, and course achievement, before concluding that wider CSM adoption improves learning effectiveness. A feasible next step would be to document the quality of implementation through structured observation or teaching logs and assess students with common case-analysis rubrics administered before and after instruction. Such measures could clarify whether the weak CAS–LEF association reflects uneven implementation, differences between lecturer and student reports, limitations of self-reported outcomes, or a genuinely small relationship in this setting (Deslauriers et al., 2019; Thistlethwaite et al., 2012).

6. Conclusion

This study examined the factors influencing the adoption of the Case Study Method in economics education and its relationship with perceived learning effectiveness at universities in southern Vietnam. The results show that learning materials quality, lecturer competence, technological readiness, university governance, and student characteristics and motivation all have positive and statistically significant effects on CSM adoption. Learning materials quality and lecturer competence are the strongest predictors. Collectively, the five antecedents explain 40.8% of the variance in CSM adoption, while the Q^2 value of .323 indicates meaningful predictive relevance.

In contrast, CSM adoption does not have a statistically significant effect on perceived learning effectiveness. The five indirect effects through CAS are also nonsignificant, indicating that CSM adoption does not mediate the relationships between its antecedents and learning effectiveness. Moreover, CAS explains only 2.8% of the variance in LEF, and the Q^2 value of .002 indicates negligible predictive relevance. These findings suggest that the conditions encouraging universities and lecturers to adopt CSM do not necessarily ensure improved learning effectiveness. Adoption frequency should therefore be distinguished from the quality and fidelity of

implementation.

From a practical perspective, universities should prioritize the development of relevant and up-to-date case materials and strengthen lecturers' skills in discussion facilitation, questioning, feedback, and competency-based assessment. Institutional support, digital infrastructure, and student preparation should be developed in an integrated manner. However, universities should not use the frequency of CSM adoption alone as evidence of teaching effectiveness. Case-based activities must be aligned with learning objectives and assessment methods, and their outcomes should be evaluated using performance-based measures such as case analysis, problem-solving, decision-making, and course achievement.

The study has several limitations. Its cross-sectional, non-probability sample of 250 lecturers and students limits causal inference and generalizability. Pooling the two respondent groups may also obscure differences between lecturer and student perceptions. Although Harman's single-factor test showed that the first factor explained only 20.595% of the total variance, common method bias cannot be ruled out completely. Future research should employ larger and role-specific samples, test measurement invariance and group differences, and use longitudinal or experimental designs. It should also distinguish CSM adoption from implementation fidelity and incorporate student engagement, feedback quality, assessment alignment, and objective learning outcomes to clarify how case-based teaching may translate into effective learning.

Ethical Approval

This study involved semi-structured interviews and an anonymous, minimal-risk questionnaire survey of adult participants, including university lecturers and economics students. The research did not involve any medical or clinical intervention, vulnerable participants, collection of biological materials, deception, or personally identifiable or sensitive information. Under the applicable institutional requirements at the time the study was conducted, anonymous, non-interventional educational research involving competent adults was not subject to formal review by an institutional ethics committee. Therefore, formal ethical approval was not required, and no approval number was issued.

Nevertheless, the study was conducted in accordance with generally accepted ethical principles for research involving human participants. Participation was entirely voluntary. Before the interviews and survey, participants received information about the study's purpose, procedures, voluntary nature, confidentiality safeguards, intended use of the data, and their right to withdraw without penalty. Written consent was obtained from interview participants, while electronic informed consent was obtained from survey respondents before they were permitted to access the questionnaire. No personally identifiable information was collected, and all research data were anonymized and securely stored.

Author contributions: Vu–Phan Gia Anh: Conceptualization, Methodology, Writing – original draft, Project administration; Tuan-Le Anh: Conceptualization, Methodology, Formal analysis, Writing – original draft, Supervision, Project administration; Tram-Nguyen Thi Huyen: Methodology, Investigation, Writing – review & editing; Nguyet-Phan Minh: Formal analysis, Data curation, Visualization; Quan-Anh Nguyen: Formal analysis, Writing – review & editing, Visualization; Long-Vu Thanh: Investigation, Data curation; Kien-Cao Phuoc: Investigation, Writing – review & editing. All authors have read and approved the final version of the manuscript.

Data availability: The anonymized data supporting the findings are not publicly posted because participants were informed that access would be restricted to the research team. De-identified data may be made available by the corresponding author upon reasonable request, subject to the consent terms and applicable institutional requirements.

Declaration of interest: The authors declare no conflict of interest.

Ethical statement: This study involved semi-structured interviews and an anonymous, minimal-risk questionnaire survey of adult participants, including university lecturers and economics

students. The research did not involve any medical or clinical intervention, vulnerable participants, collection of biological materials, deception, or personally identifiable or sensitive information. Under the applicable institutional requirements at the time the study was conducted, anonymous, non-interventional educational research involving competent adults was not subject to formal review by an institutional ethics committee. Therefore, formal ethical approval was not required, and no approval number was issued. Nevertheless, the study was conducted in accordance with generally accepted ethical principles for research involving human participants. Participation was entirely voluntary. Before the interviews and survey, participants received information about the study's purpose, procedures, voluntary nature, confidentiality safeguards, intended use of the data, and their right to withdraw without penalty. Written consent was obtained from interview participants, while electronic informed consent was obtained from survey respondents before they were permitted to access the questionnaire. No personally identifiable information was collected, and all research data were anonymized and securely stored.

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