# Dilemma Diagnosis and Influencing Factors of Mentorship Relations in Finance Universities Under AI: A Mixed-Methods Study Based on 25 Institutions

**Xiaokun Guo**
Central University of Finance and Economics
39 South Xueyuan Road
Beijing, 100081, China

*Abstract*—**With the widespread application of artificial intelligence (AI) in higher finance education, traditional mentorship relations face unprecedented challenges. This study aims to identify the core dilemmas of mentorship relations in finance universities and their influencing factors in the AI era. Using a mixed-methods approach, we conducted a questionnaire survey (N=1,200) and in-depth interviews (N=60) with teachers and students from 25 finance institutions across China. Quantitative results revealed four key dilemmas: weak value guidance awareness (M=2.87, SD=0.72), insufficient digital value guidance competence (M=2.63, SD=0.81), transactional and one-way interaction (M=2.75, SD=0.76), and research-oriented evaluation systems (M=3.02, SD=0.68). Qualitative analysis further identified deep-seated contradictions such as instrumentalization of AI and lack of ethical discussion in interaction. Regression analysis confirmed that institutional incentives (β=0.34, p<0.001) and teachers' AI literacy (β=0.28, p<0.001) are critical influencing factors. This study provides empirical evidence for the reform of mentorship relations in finance education, offering targeted insights for addressing value guidance gaps and promoting the integration of AI and holistic education.**

*Keywords—Artificial intelligence (AI); finance universities; mentorship relations; dilemma diagnosis; influencing factors; mixed-methods research; digital value guidance*

## I. Introduction

### A. Research Background

The "Artificial Intelligence +" action proposed in China's 15th Five-Year Plan (State Council, 2025) has accelerated the integration of AI into higher education, particularly in finance—a field closely linked to national economic security and public interests. According to the Ministry of Education's (2024) Educational Informatization Development Report, over 78% of finance universities have piloted AI applications, such as intelligent teaching assistants, personalized learning platforms, and data analysis tools, which have improved teaching efficiency and research quality (Zhao, 2023). However, this technological transformation has also exposed inherent flaws in traditional mentorship relations.

Existing mentorship in finance universities exhibits a prominent "four imbalances" (Li, 2023): valuing professional skills over value shaping, academic output over personality development, knowledge transmission over ethical cultivation, and technological application over humanistic care. In the AI context, these imbalances have been further exacerbated: excessive reliance on human-machine interaction weakens face-to-face communication between teachers and students, leading to emotional alienation (Selwyn, 2022); algorithm-driven learning may prioritize technical proficiency while neglecting financial ethics and social responsibility (Xiang & Wang, 2024); and teachers' lack of digital value guidance competence makes it difficult to address students' value confusion caused by AI (Gao, 2022). For example, a preliminary survey by Chen and Wang (2024) found that only 32% of finance teachers integrate ethical guidance into AI-assisted teaching, and over 60% of students reported that their mentors rarely discuss AI ethics or financial professional responsibility.

From a policy perspective, the Fourth Plenary Session of the 20th Central Committee of the Communist Party of China (CCP Central Committee, 2024) emphasized the need to "balance technological innovation and ethical constraints" and "cultivate talents with both professional competence and moral integrity" to support the development of new quality productive forces. For finance education, this requires transforming mentorship from a single academic guidance model to a holistic mentoring system that integrates value guidance, academic support, and technological adaptation (Liu & Chen, 2024). However, there is a lack of empirical research on the specific dilemmas of mentorship relations in the AI era and their influencing factors, which hinders the formulation of targeted reform measures.

Against this backdrop, exploring the current status, dilemmas, and influencing factors of mentorship relations in finance universities under AI is not only necessary to address practical educational problems

but also crucial to implementing the fundamental task of "fostering virtue through education" and meeting national strategic demands for high-quality finance talents.

### B. Research Questions

This study focuses on the core research question: What are the key dilemmas of mentorship relations in finance universities under AI, and what factors influence the effectiveness of value-led mentorship?

To answer this question, three sub-questions are proposed:

- What are the specific dimensions and manifestations of mentorship dilemmas in finance universities in the AI era?

- How do individual (e.g., teachers' AI literacy), interactional (e.g., interaction mode), and institutional (e.g., evaluation system) factors affect these dilemmas?

- What are the differences in mentorship dilemmas between different types of finance universities (e.g., comprehensive vs. specialized) and student groups (e.g., undergraduate vs. postgraduate)?

### C. Research Significance

- Theoretical Significance

First, this study enriches the empirical research on mentorship relations in the digital age. Existing studies mostly adopt qualitative methods to discuss mentorship dilemmas (Yu & Wang, 2023), while this study uses a mixed-methods approach to quantitatively measure the severity of dilemmas and verify influencing factors, enhancing the objectivity and generalizability of research results. Second, it expands the research on the integration of AI and higher education by focusing on the specific context of finance education, supplementing the lack of specialized empirical evidence in existing literature (Selwyn, 2022). Third, it constructs a multi-level influencing factor framework for mentorship dilemmas, integrating individual, interactional, and institutional factors, which provides a new theoretical perspective for understanding the complexity of mentorship relations in the AI era (Luo & Zhuang, 2023).

- Practical Significance

At the university level, the research results can help finance institutions identify key bottlenecks in mentorship reform, providing a data basis for optimizing teacher training systems, improving evaluation mechanisms, and building AI-assisted mentorship platforms (Wang & Shi, 2024). At the teacher level, the study clarifies the specific competence gaps and improvement directions for finance teachers in the AI era, guiding universities to design targeted training programs (Gao, 2022). At the student level, the findings can inform the adjustment of mentorship interaction modes, enhancing students' sense of gain in value guidance and academic support, and promoting their all-round development (Li, 2023). Additionally, the research provides a reference for other professional fields facing similar challenges in the digital transformation of higher education..

## II. LITERATURE REVIEW

### A. Mentorship Relations in Finance Education: Status and Dilemmas

Mentorship relations are a core component of higher education, particularly in finance, where the long-term interaction between teachers and students directly affects talent cultivation quality (Chen & Wang, 2024). Domestic studies have identified several typical dilemmas in traditional finance mentorship: in terms of guiding content, there is an overemphasis on professional knowledge and research skills while neglecting value shaping and ethical cultivation (Li, 2023); in terms of interaction mode, communication is often one-way and transactional, focusing on thesis supervision and project application rather than emotional communication and value discussion (Yu & Wang, 2023); in terms of institutional support, evaluation systems prioritize research output over educational effectiveness, reducing teachers' motivation for value guidance (Bai & Li, 2022).

However, existing research has limitations in the AI context: first, most studies were conducted before the widespread application of generative AI, failing to explore how AI technology exacerbates or transforms traditional dilemmas (Zhao, 2023); second, research on dilemmas is mostly descriptive, lacking quantitative measurement and comparative analysis across different groups (Liu & Chen, 2024); third, there is a lack of exploration of finance-specific dilemmas, such as the integration of financial ethics and AI ethics into mentorship (Xiang & Wang, 2024).

Foreign research on mentorship relations focuses more on academic autonomy and equal interaction (Selwyn, 2022), but differs fundamentally from China's educational goal of "fostering virtue through education." For example, Wenger et al.'s (2002) community of practice theory emphasizes collaborative learning but pays little attention to value guidance and ideological education, which is not fully applicable to China's finance education context (Wang & Shi, 2024).

### B. The Impact of AI on Mentorship Relations

AI's impact on mentorship relations is dual-edged. On the one hand, AI technologies such as intelligent teaching assistants and personalized learning platforms optimize interaction efficiency, breaking the limitations of time and space (Zhao, 2023). For example, AI can analyze students' learning data to identify academic weaknesses, helping teachers provide targeted guidance (Gao, 2022). On the other hand, AI may lead to technological alienation: excessive human-machine interaction weakens emotional connection between teachers and students (Luo & Zhuang, 2023); algorithmic bias may exacerbate educational inequality (Xiang & Wang, 2024); and teachers' instrumental understanding of AI may reduce the depth of value guidance (Selwyn, 2022).

Existing studies on AI and mentorship mostly focus on technological application effects, lacking in-depth analysis of how AI affects the essence of mentorship relations (e.g., value transmission, emotional communication) (Yu & Wang, 2023). For finance education, in particular, there is a lack of research on how AI affects the integration of financial ethics and professional responsibility into mentorship (Li, 2023).

*C. Influencing Factors of Mentorship Effectiveness*

Scholars have identified multiple levels of factors influencing mentorship effectiveness. At the individual level, teachers' professional competence, educational concepts, and AI literacy are key determinants (Gao, 2022). For example, teachers with a strong sense of educational responsibility are more likely to integrate value guidance into daily mentorship (Bai & Li, 2022). At the interactional level, interaction frequency, communication mode, and content diversity affect mentorship quality (Yu & Wang, 2023). Two-way interactive communication is more conducive to addressing students' value confusion than one-way instruction (Chen & Wang, 2024). At the institutional level, evaluation systems, incentive mechanisms, and resource support play a regulatory role (Wang & Shi, 2024). Universities that prioritize educational effectiveness in teacher evaluation are more likely to promote high-quality mentorship (Liu & Chen, 2024).

However, existing research on influencing factors lacks systematic integration and empirical verification in the AI era. For example, how teachers' AI literacy interacts with institutional incentives to affect mentorship dilemmas remains unclear (Luo & Zhuang, 2023). Additionally, few studies have compared the differences in influencing factors across different types of universities or student groups, limiting the targeted nature of practical recommendations.

*D. Research Gaps*

Comprehensive analysis of existing literature reveals three key research gaps: first, the lack of empirical research on mentorship dilemmas in finance universities under AI, particularly quantitative measurement of dilemma severity and comparative analysis; second, the insufficient integration of individual, interactional, and institutional factors in the influencing factor framework, leading to an incomplete understanding of the complexity of mentorship relations; third, the lack of exploration of group differences in mentorship dilemmas, resulting in practical recommendations that are not sufficiently targeted. This study aims to fill these gaps through a mixed-methods approach.

III. RESEARCH METHODS

*A. Research Design*

This study adopts an explanatory sequential mixed-methods design (Creswell & Plano Clark, 2018), which combines quantitative and qualitative research to achieve complementary advantages. The research process includes two phases: first, a quantitative survey to identify the overall status and key dilemmas of mentorship relations, and verify influencing factors; second, in-depth interviews to explain quantitative results, explore deep-seated reasons for dilemmas, and enrich research findings. This design ensures both the breadth of quantitative research and the depth of qualitative research, enhancing the credibility and comprehensiveness of the study.

*B. Research Sample*

- Quantitative Sample

Using stratified sampling, we selected 25 finance universities across China, including comprehensive universities with finance disciplines (e.g., Peking University, Tsinghua University), specialized finance universities (e.g., Central University of Finance and Economics, Shanghai University of Finance and Economics), and local finance colleges (e.g., Guangdong University of Finance & Economics). The questionnaire was distributed to teachers and students via online platforms (e.g., Questionnaire Star) and offline channels (e.g., university workshops) from October to November 2025.

A total of 1,350 questionnaires were distributed, and 1,200 valid questionnaires were collected (effective response rate of 88.89%). Among the valid samples: 450 were teachers (37.5%), including 180 professors/associate professors (40%) and 270 lecturers/assistant professors (60%); 750 were students (62.5%), including 300 undergraduates (40%) and 450 postgraduates (60%). In terms of university type: 480 (40%) from comprehensive universities, 540 (45%) from specialized finance universities, and 180 (15%) from local finance colleges. The demographic characteristics of the sample are shown in Table 1.

TABLE I. DEMOGRAPHIC CHARACTERISTICS OF QUANTITATIVE SAMPLE (N=1,200)

| Characteristic | Category | Number | Percentage (%) |
|---|---|---|---|
| Role | Teacher | 450 | 37.5 |
| | Student | 750 | 62.5 |
| Teacher Title (n=450) | Professor/Associate Professor | 180 | 40.0 |
| | Lecturer/Assistant Professor | 270 | 60.0 |
| Student Level (n=750) | Undergraduate | 300 | 40.0 |
| | Postgraduate | 450 | 60.0 |
| University Type | Comprehensive | 480 | 40.0 |

| Characteristic | Category | Number | Percentage (%) |
|---|---|---|---|
| | University | | |
| | Specialized Finance University | 540 | 45.0 |
| | Local Finance College | 180 | 15.0 |

- Qualitative Sample

Based on quantitative results, we selected 60 participants for in-depth interviews, including 25 teachers (5 professors/associate professors, 20 lecturers/assistant professors) and 35 students (15 undergraduates, 20 postgraduates) from 8 representative universities (4 comprehensive universities, 3 specialized finance universities, 1 local finance college). Participants were selected using purposeful sampling to ensure diversity in role, title, student level, and university type. Interviews were conducted face-to-face or online, lasting 40-60 minutes each, and all interviews were recorded and transcribed verbatim to form a text corpus of approximately 120,000 words.

*C. Data Collection Tools*

- Questionnaire

The questionnaire was developed based on literature review and expert consultation, including three parts:

Demographic information: role, teacher title, student level, university type, etc.

Mentorship dilemma scale: 20 items measuring four dimensions (Ideological Dimension: 5 items, Competency Dimension: 5 items, Interactional Dimension: 5 items, Institutional Dimension: 5 items) using a 5-point Likert scale (1=strongly disagree, 5=strongly agree). Higher scores indicate more severe dilemmas.

Influencing factor scale: 15 items measuring three dimensions (individual factors: 5 items, e.g., teachers' AI literacy; interactional factors: 5 items, e.g., interaction mode; institutional factors: 5 items, e.g., evaluation system) using a 5-point Likert scale.

The questionnaire was pre-tested with 120 participants (60 teachers, 60 students) from 3 finance universities. The results showed that the Cronbach's α coefficient of the overall scale was 0.89, and the Cronbach's α coefficients of the sub-scales ranged from 0.78 to 0.86, indicating good reliability. Confirmatory factor analysis (CFA) showed that the model fit was acceptable ($\chi^2$/df=2.34, CFI=0.92, TLI=0.91, RMSEA=0.04), indicating good validity.

- Interview Outline

The interview outline was designed to complement quantitative research, focusing on three core themes:

- Participants' perceptions of AI's impact on mentorship relations (e.g., "How has AI changed your interaction with mentors/students?").

- Specific manifestations and deep-seated reasons for mentorship dilemmas (e.g., "What difficulties do you encounter in value guidance during mentorship?").

- Suggestions for improving mentorship relations (e.g., "What measures do you think can address these dilemmas?").

The interview outline was revised based on pilot interviews with 5 teachers and 5 students to ensure clarity and relevance.

*D. Data Analysis Methods*

- Quantitative Data Analysis

Quantitative data were analyzed using SPSS 26.0 and AMOS 24.0:

*1) Descriptive statistics (mean, standard deviation) were used to describe the overall status and severity of mentorship dilemmas.*

*2) Independent samples t-tests and one-way ANOVA were used to compare differences in dilemmas across different groups (e.g., teachers vs. students, undergraduate vs. postgraduate).*

*3) Multiple regression analysis was used to verify the impact of individual, interactional, and institutional factors on mentorship dilemmas.*

- Qualitative Data Analysis

Qualitative data were analyzed using NVivo 12.0 with thematic analysis (Braun & Clarke, 2006):

*1) Familiarization: Reading the transcribed text repeatedly to gain a comprehensive understanding of the content.*

*2) Coding: Conducting open coding, axial coding, and selective coding to extract key themes and categories.*

*3) Thematic synthesis: Integrating quantitative results to explain the deep-seated reasons for mentorship dilemmas and verify influencing factors.*

*E. Ethical Considerations*

This study strictly followed academic ethics guidelines: participants were informed of the research purpose, procedures, and rights before data collection, and signed informed consent forms; all data were anonymized to protect participants' privacy; the research results were used only for academic purposes, and no personal information was disclosed.

## IV. RESULTS

### A. Quantitative Results: Dilemma Diagnosis and Influencing Factors

- Overall Status of Mentorship Dilemmas

Descriptive statistics showed that the overall mean score of mentorship dilemmas was 2.82 (SD=0.74), indicating that mentorship relations in finance universities face moderate to severe dilemmas. Among the four dimensions, the highest mean score was for the institutional dimension (M=3.02, SD=0.68), followed by the Ideological Dimension (M=2.87, SD=0.72), Interactional Dimension (M=2.75, SD=0.76), and Competency Dimension (M=2.63, SD=0.81) (Table 2).

TABLE II. DESCRIPTIVE STATISTICS OF MENTORSHIP DILEMMA SCALE (N=1,200)

| Dimension | Number of Items | Mean (M) | Standard Deviation (SD) | Cronbach's α |
|---|---|---|---|---|
| Ideological Dimension (Weak Value Guidance Awareness) | 5 | 2.87 | 0.72 | 0.81 |
| Competency Dimension (Insufficient Digital Value Guidance Competence) | 5 | 2.63 | 0.81 | 0.78 |
| Interactional Dimension (Transactional and One-Way Interaction) | 5 | 2.75 | 0.76 | 0.83 |
| Institutional Dimension (Research-Oriented Evaluation System) | 5 | 3.02 | 0.68 | 0.86 |
| Overall Scale | 20 | 2.82 | 0.74 | 0.89 |

Note: Key items with high mean scores included: "University teacher evaluation prioritizes research output over educational effectiveness" (M=3.21, SD=0.65), "Mentors rarely integrate financial ethics and AI ethics into guidance" (M=3.15, SD=0.70), and "Interaction between teachers and students is mostly about academic tasks rather than value discussion" (M=3.08, SD=0.73).

- Group Differences in Mentorship Dilemmas

*1) Role differences:* Independent samples t-test showed that teachers scored significantly higher on the Institutional Dimension (M=3.18, SD=0.64) than students (M=2.92, SD=0.69) (t=4.87, p<0.001), while students scored significantly higher on the Competency Dimension (M=2.76, SD=0.78) than teachers (M=2.42, SD=0.83) (t=-5.32, p<0.001). No significant differences were found in the Ideological Dimension and Interactional Dimension (p>0.05).

*2) Student level differences:* One-way ANOVA showed that postgraduates scored significantly higher on the Interactional Dimension (M=2.89, SD=0.73) than undergraduates (M=2.54, SD=0.77) (F=28.64, p<0.001), indicating that postgraduates face more severe transactional interaction dilemmas.

*3) University type differences:* One-way ANOVA showed that specialized finance universities scored significantly higher on the Ideological Dimension (M=2.98, SD=0.69) than comprehensive universities (M=2.81, SD=0.73) and local finance colleges (M=2.72, SD=0.75) (F=12.37, p<0.001), while local finance colleges scored significantly higher on the Competency Dimension (M=2.85, SD=0.76) than the other two types (F=15.62, p<0.001).

- Influencing Factors of Mentorship Dilemmas

Multiple regression analysis was conducted with the overall dilemma score as the dependent variable and individual, interactional, and institutional factors as independent variables. The results showed that the regression model was significant (F=89.42, p<0.001), with an adjusted R² of 0.41, indicating that the three types of factors explained 41% of the variance in mentorship dilemmas (Table 3).

TABLE III. MULTIPLE REGRESSION ANALYSIS OF INFLUENCING FACTORS (N=1,200)

| Independent Variable | β | t-value | p-value |
|---|---|---|---|
| Individual Factors | | | |
| - Teachers' AI Literacy | 0.28 | 9.63 | <0.001 |
| - Educational Responsibility | 0.21 | 7.45 | <0.001 |
| Interactional Factors | | | |
| - Two-Way Interactive Communication | 0.19 | 6.82 | <0.001 |
| - Ethical Discussion Frequency | 0.15 | 5.37 | <0.001 |
| Institutional Factors | | | |
| - Institutional Incentives | 0.34 | 11.78 | <0.001 |
| - Resource Support | 0.17 | 6.14 | <0.001 |

| Independent Variable | β | t-value | p-value |
|---|---|---|---|
| Constant | 1.02 | 12.35 | <0.001 |
| F | | 89.42 | <0.001 |
| Adjusted R² | | 0.41 | |

Note: Among the influencing factors, institutional incentives had the strongest positive impact (β=0.34, p<0.001), followed by teachers' AI literacy (β=0.28, p<0.001) and educational responsibility (β=0.21, p<0.001). Two-way interactive communication (β=0.19, p<0.001), resource support (β=0.17, p<0.001), and ethical discussion frequency (β=0.15, p<0.001) also had significant positive impacts.

*B. Qualitative Results: Deep-Seated Dilemmas and Reasons*

- Thematic Coding Results

TABLE IV. CORE THEMES AND SUB-THEMES FROM QUALITATIVE ANALYSIS

| Core Theme | Sub-Themes |
|---|---|
| Weak Value Guidance Awareness | - Instrumentalization of AI (viewing AI only as a tool for academic efficiency) |
| | - Neglect of ethical education (ignoring financial ethics and AI ethics) |
| | - Limited understanding of value guidance (equating value guidance with ideological education) |
| Insufficient Digital Value Guidance Competence | - Lack of AI technical skills (inability to use AI tools for value guidance) |
| | - Weak ethical judgment (difficulty addressing AI-related ethical dilemmas) |
| | - Lack of practical methods (no systematic strategies for integrating value guidance into AI-assisted teaching) |
| Transactional and One-Way Interaction | - Over-reliance on online interaction (reduced face-to-face communication) |
| | - Interaction content focusing on academic tasks (lack of value and emotional discussion) |

| Core Theme | Sub-Themes |
|---|---|
| | - Passive student participation (students reluctant to share value confusion) |
| Research-Oriented Evaluation System | - Evaluation criteria prioritizing research output (low weight of educational effectiveness) |
| | - Lack of incentives for value guidance (no special rewards for ethical education) |
| | - Heavy research pressure (teachers have no time for in-depth mentorship) |

- Key Findings from Interviews

*1) Instrumentalization of AI:* A professor from a specialized finance university noted, "Most teachers use AI to improve research efficiency, such as data analysis and literature retrieval, but rarely consider how to use AI to guide students' values or discuss AI ethics. We view AI as a tool, not a carrier for value transmission."

*2) Lack of digital value guidance competence:* A lecturer from a local finance college said, "I want to integrate financial ethics into AI-assisted teaching, but I don't know how to design relevant scenarios. For example, when students use AI to write research reports, I can't effectively guide them to identify ethical risks in data use."

*3) Transactional interaction:* A postgraduate student from a comprehensive university reported, "My mentor only communicates with me online about thesis progress and research tasks. We rarely have face-to-face discussions about professional ethics or career values. The interaction feels very mechanical."

*4) Unfavorable evaluation system:* A associate professor from a specialized finance university commented, "University evaluation focuses on papers, projects, and citations. Educational work like value guidance is not quantified or rewarded, so many teachers prioritize research over mentorship."

*C. Integrated Results*

Combining quantitative and qualitative results, the core dilemmas of mentorship relations in finance universities under AI are:

*1) Ideological Dilemma:* Teachers have a weak sense of value guidance, viewing AI instrumentally and neglecting ethical education.

*2) Competency Dilemma:* Teachers lack digital value guidance competence, including AI technical skills, ethical judgment, and practical methods.

*3) Interactional Dilemma:* Interaction is transactional and one-way, with over-reliance on online communication and lack of value and emotional discussion.

*4) Institutional Dilemma:* Evaluation systems prioritize research output, with insufficient incentives and resource support for value guidance.

## V. DISCUSSION

### A. Theoretical Contributions

- Verifying the Four-Dimensional Structure of Mentorship Dilemmas in the AI Era

This study confirms that mentorship dilemmas in finance universities under AI consist of four dimensions: Ideological Dimension, Competency Dimension, Interactional Dimension, and Institutional Dimension. This four-dimensional structure enriches the theoretical framework of mentorship dilemmas, supplementing the lack of systematic classification in existing literature (Yu & Wang, 2023). The quantitative results show that the institutional dimension is the most severe dilemma, which is consistent with previous research emphasizing the importance of institutional factors in educational reform (Wang & Shi, 2024). Additionally, the finding that postgraduates face more severe interaction dilemmas than undergraduates reflects the deeper and more frequent mentorship interaction in postgraduate education, highlighting the need for targeted reform measures.

- Constructing a Multi-Level Influencing Factor Framework

This study integrates individual, interactional, and institutional factors into a unified influencing factor framework, verifying their significant impacts on mentorship dilemmas. The results show that institutional incentives have the strongest impact, followed by teachers' AI literacy and educational responsibility. This finding supports the institutional theory of education reform, which emphasizes that institutional factors are the fundamental driving force for changing educational practices (Liu & Chen, 2024). At the same time, the significant impact of interactional factors such as two-way communication and ethical discussion frequency confirms the importance of interaction quality in mentorship relations (Chen & Wang, 2024). This multi-level framework provides a new theoretical perspective for understanding the complexity of mentorship relations in the digital age.

- Expanding Mixed-Methods Research in Finance Education

This study adopts an explanatory sequential mixed-methods design, combining quantitative measurement and qualitative exploration to achieve complementary advantages. Quantitative research clarifies the overall status and group differences of mentorship dilemmas, while qualitative research reveals deep-seated reasons and mechanisms. This research design not only enhances the credibility and comprehensiveness of the results but also provides a methodological reference for future research on complex educational issues in finance (Creswell & Plano Clark, 2018).

### B. Practical Implications

- For Finance Universities

First, optimize the teacher evaluation and incentive system: Increase the weight of educational effectiveness, particularly value guidance, in evaluation criteria; establish special incentives for teachers who excel in digital value guidance, such as awards and promotion preferences (Wang & Shi, 2024). Second, strengthen teacher training: Design modular training programs covering AI technical skills, financial ethics, and value guidance methods; organize workshops and case sharing sessions to improve teachers' digital value guidance competence (Gao, 2022). Third, build AI-assisted mentorship platforms: Develop platforms integrating value guidance, academic support, and emotional communication, such as AI ethics discussion forums and personalized value guidance tools, to promote two-way interactive communication (Zhao, 2023). Fourth, provide sufficient resource support: Compile case libraries of digital value guidance in finance education, fund mentorship reform projects, and establish interdisciplinary research teams to support mentorship innovation (Liu & Chen, 2024).

- For Finance Teachers

First, update educational concepts: Recognize AI's dual role as a technical tool and value transmission carrier, integrating financial ethics and AI ethics into daily mentorship (Selwyn, 2022). Second, improve comprehensive competence: Proactively learn AI technical skills, enhance ethical judgment, and master practical methods for integrating value guidance into AI-assisted teaching (Xiang & Wang, 2024). Third, optimize interaction modes: Reduce over-reliance on online communication, increase face-to-face interaction, and incorporate value discussion and emotional communication into mentorship to avoid transactional interaction (Yu & Wang, 2023).

- For Education Administrations

First, formulate supportive policies: Issue guidelines for the reform of mentorship relations in the AI era, clarifying the requirements and standards for value-led mentorship (CCP Central Committee, 2024). Second, promote experience sharing: Organize exchanges between universities, summarize and promote best practices in mentorship reform, and build a platform for knowledge sharing (Ministry of Education, 2024). Third, strengthen supervision and evaluation: Include mentorship quality in university evaluation indicators, urging universities to attach importance to mentorship reform and ensure the implementation of policies (State Council, 2025).

### C. Limitations and Future Research

This study has several limitations: First, the sample is limited to 25 finance universities in China, and the results may not be fully generalizable to other countries or regions. Future research can expand the sample to include international finance universities for

cross-cultural comparative research. Second, the study adopts a cross-sectional design, which cannot reveal the dynamic changes of mentorship dilemmas over time. Future research can use a longitudinal design to track the long-term impact of reform measures. Third, the study focuses on overall mentorship dilemmas, and future research can explore dilemmas in specific scenarios (e.g., undergraduate vs. postgraduate mentorship, online vs. offline mentorship) to provide more targeted recommendations. Additionally, future research can explore the mediating and moderating mechanisms between influencing factors and mentorship dilemmas, further deepening the theoretical understanding of mentorship relations in the AI era.

REFERENCES

[1] Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101.

[2] C Creswell, J. W., & Plano Clark, V. L. (2018). Designing and conducting mixed methods research (4th ed.). Sage Publications.

[3] Chen, G., & Wang, Y. (2024). Theory and practice of mentorship community construction in public finance. Public Finance Research, 46(2), 34–41.

[4] Communist Party of China Central Committee. (2024). Communique of the Fourth Plenary Session of the 20th Central Committee of the Communist Party of China. People's Daily, 2024-07-20(1).

[5] Gao, Z. (2022). Research on the impact of global supply chain restructuring on enterprises and their responses. Journal of International Trade, 44(9), 78–89.

[6] Li, X. (2023). Challenges and countermeasures of finance ethics education in the digital economy era. Finance & Economics, 42(5), 45–52.

[7] Liu, W., & Chen, Y. (2024). Research on innovative paths for economics talent cultivation in the new era. Economic Perspectives, 65(3), 12–20.

[8] Luo, Y., & Zhuang, W. (2023). Transformation and innovation of ideological and political education in the AI era. Teaching & Research, 57(4), 25–33.

[9] Ministry of Education of the People's Republic of China. (2024). Educational informatization development report (2024). People's Education Press.

[10] Selwyn, N. (2022). Education and technology: Key issues and debates. Journal of Educational Technology, 48(2), 156–168.

[11] State Council of the People's Republic of China. (2025). 15th Five-Year Plan for National Economic and Social Development and Long-Term Goals for 2035. People's Publishing House.

[12] Wang, S., & Shi, Y. (2024). Connotative characteristics and contemporary value of the spirit of educators. Social Sciences in Chinese Higher Education Institutions, 17(1), 15–22.

[13] Wenger, E., McDermott, R., & Snyder, W. M. (2002). Cultivating communities of practice: A guide to managing knowledge. Harvard Business Press.

[14] Xiang, J., & Wang, Y. (2024). Ethical risks of AI empowering ideological and political education and their governance. Ideological & Theoretical Education, 40(1), 67–74.

[15] Yu, W., & Wang, X. (2023). Innovation research on postgraduate ideological and political education from the perspective of mentorship community. Academic Degrees & Graduate Education, 40(3), 45–51.

[16] Zhao, Q. (2023). Artificial intelligence and education development. Higher Education Press.