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A Comparative Study on Policy Instruments in Inter-Provincial, Border Economic, and Overseas Trade Cooperation Zones

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Abstract

This paper conducts a comprehensive analysis of the policy instruments applicable to three distinct types of economic cooperation zones in China: inter-provincial municipal cooperation zones, border economic cooperation zones, and overseas economic and trade cooperation zones. By examining the specific policies, incentives, and regulatory frameworks in each zone, this study aims to identify commonalities and differences in policy approaches, and to assess their effectiveness in promoting economic development and regional integration.

Keywords : Economic Cooperation Zones , Policy Instruments , Comparative Analysis

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Introduction

In recent years, China has established a variety of economic cooperation zones to facilitate cross-regional economic integration and international trade. These zones, including inter-provincial municipal cooperation zones, border economic cooperation zones, and overseas economic and trade cooperation zones, each serve distinct purposes and operate under different policy frameworks. This study contributes to the field of regional integration theory from the perspective of policy instruments, endeavoring to provide a comparative analysis of the policy instruments employed within these zones, emphasizing their design, implementation, and impact.

By focusing on the three types of cooperation zones, this research meticulously examines the strategies and industrial policy instruments adopted in their governance. This process not only serves as a practical validation of regional integration theory but also adds new perspectives and empirical evidence to the theory. It particularly focuses on cross-border cooperation mechanisms and regional coordination strategies, providing the academic community with more detailed and specific analytical materials.

Furthermore, this study establishes theoretical foundations for regional coordinated development and enhances the understanding of cross-border regional cooperation theory. It highlights how different types of cooperation zones play various roles in this development and emphasizes the crucial role of the rational application of policy instruments in promoting factor flow, industrial coordination, and benefit sharing among regions. By exploring how to optimize the combination of policy instruments according to the characteristics of cooperation zones, it offers operational theoretical guidance for regional coordinated development.

Border economic cooperation zones and overseas economic and trade cooperation zones involve unique political, economic, and cultural factors. ¹This study's in-depth analysis of the effectiveness of policy instruments in these zones reveals the special laws and influencing factors of cross-border regional cooperation, enriching cross-border regional cooperation theory. It also provides

¹ Zhang, X. H. (2011). An exploration of the construction of cross-border economic cooperation zones and China's cross-border cooperation strategies. *Asia-Pacific Economic Review*, 4, 108-113.

theoretical support for addressing the challenges of regional economic integration in the context of globalization.

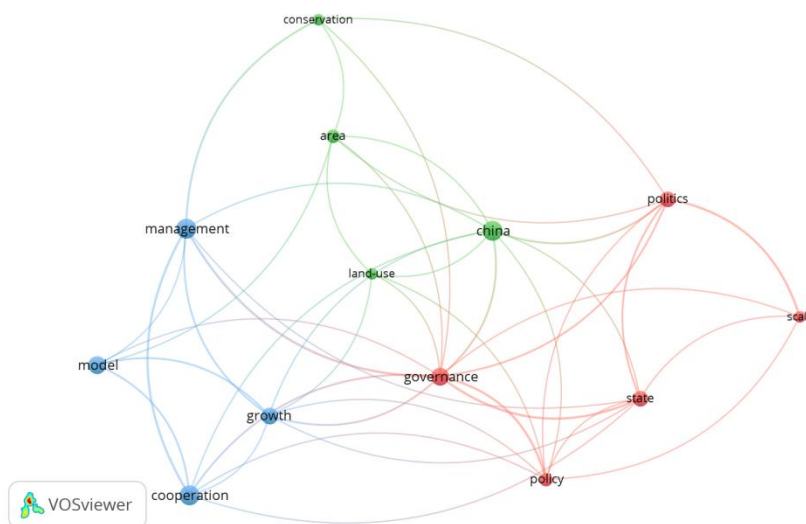
Additionally, this research aims to create a theory of "classification of policy instruments in cooperation zone systems," focusing on the cooperative regional theory of joint management by cross-administrative entities. This theory explores how to leverage the respective advantages of both or multiple parties in cooperation, enabling different systems to coordinate and adapt, different mechanisms to effectively connect, and reducing administrative friction among different participating administrative entities.

This study further provides a scientific basis for policy formulation by thoroughly comparing the effectiveness of policy instruments in different cooperation zones and clarifying the advantages and disadvantages of various policy instruments in promoting regional cooperation. It helps governments optimize the combination of policy instruments according to the characteristics and needs of different cooperation zones, improving the efficiency of policy resource allocation and enhancing the policy effects of regional cooperation.

Moreover, cooperation zones are important carriers for achieving regional coordinated development. Through this study, we can better understand the impact of different policy instruments on the development of cooperation zones, promoting the rational flow and optimal allocation of resources among regions. It helps break down administrative barriers, strengthen economic ties and coordinated development among regions, narrow the development gap between regions, and ultimately achieve coordinated and sustainable economic and social development in the region. Below is an elaboration on the research significance and research questions that this study addresses.

Literature Review

The existing literature on economic cooperation zones in China has primarily focused on individual zones or specific policy areas. However, there is a lack of comprehensive comparative analysis that examines the policy instruments across different types of zones. This paper contributes to the field by providing a systematic comparison of policy approaches in inter-provincial municipal cooperation zones, border economic cooperation zones, and overseas economic and trade cooperation zones.



This study selected 150 articles related to "Cooperation Zones" from the Science Citation Index Expanded (spanning from 2000 to the present) and the Social Sciences Citation Index (spanning from 2007 to the present), both part of the Web of Science Core Collection database, on the Web of Science website. The full records along with their cited references were exported. The data were then imported into VOSviewer to create this data visualization map. The purpose of this analysis is to explore the trends, patterns, and interconnections within the academic discourse surrounding this

topic. This literature review offers a holistic examination of the concept of collaborative zones, drawing upon a comprehensive visual analysis of existing scholarly works to synthesize key themes, methodologies, and findings. Collaborative zones have emerged as pivotal entities in fostering sustainable development, innovation, and addressing societal challenges, often serving as platforms for multi-stakeholder engagement, knowledge sharing, and resource mobilization. The visual analysis serves as a navigational tool through the extensive literature, identifying trends, gaps, and emerging research directions. The review underscores the importance of protecting these zones from external threats like environmental degradation, while highlighting the role of regional dynamics, such as geographical proximity and economic integration, in shaping their success. Political will and effective governance frameworks are identified as crucial for their establishment and sustainability, emphasizing the need for inclusive decision-making, transparent policies, and accountability mechanisms. Innovative management strategies and sustainable land use practices are critical to balancing economic growth with environmental conservation. The literature explores the impact of different scales on zone effectiveness, using modeling approaches to simulate scenarios and inform policy decisions. Collaborative zones exhibit diverse growth patterns, facilitated by cooperation mechanisms like public-private partnerships and intergovernmental agreements. The visual analysis reveals a complex network of interconnected themes, with collaboration at its center, and highlights gaps in empirical research validating theoretical models and understanding the nuanced impacts of collaboration on stakeholders. Future research should explore the role of technology in facilitating collaboration, cross-sectoral synergies for addressing complex challenges, and new perspectives to enhance our understanding of collaborative zones' potential to drive positive change.

Methodology

This paper employs a qualitative research approach, utilizing a combination of document analysis and expert interviews to gain a deep understanding of the policy instruments applicable to inter-provincial municipal cooperation zones, border economic cooperation zones, and overseas economic and trade cooperation zones. The research process is meticulously designed to ensure the comprehensiveness and reliability of the findings.

Data Collection

Policy Documents and Regulations: A thorough review of official policy documents, regulations, and white papers issued by national and local government agencies will be conducted. These documents provide the foundational framework for understanding the policy instruments in each type of zone.

Reports and Case Studies: Relevant reports, case studies, and evaluations conducted by think tanks, research institutions, and international organizations will be analyzed to gain insights into the practical implementation and outcomes of these policies.

Expert Interviews: Policymakers: Interviews with policymakers directly involved in the formulation and implementation of policies in these zones will provide firsthand accounts of the decision-making processes, challenges faced, and strategies employed. Experts and Scholars: Consultations with experts and scholars in the fields of regional economics, international trade, and urban planning will offer theoretical perspectives and analytical insights. Stakeholders: Interviews with representatives from businesses, non-governmental organizations, and local communities within the zones will gather data on the ground-level impact of these policies.

Data Analysis

Content Analysis: A systematic content analysis of the collected documents will be conducted to identify key themes, trends, and patterns in policy design across the different zones.

Thematic Coding: Expert interview transcripts will be analyzed using thematic coding to extract and categorize key insights and opinions related to policy effectiveness, challenges, and potential improvements.

Triangulation: The data from document analysis and expert interviews will be triangulated to cross-verify findings and ensure the robustness of the research.

Policy Instruments in Different Zones

Inter-Provincial Municipal Cooperation Zones

Inter-provincial municipal cooperation zones aim to foster economic integration and cooperation among geographically dispersed provinces. The policy instruments in these zones include:

Fiscal Incentives: Tax breaks, grants, and subsidies to encourage businesses to locate within the zones and stimulate economic activity.

Land Use Policies: Flexible land use regulations to facilitate industrial development, urban renewal, and infrastructure projects.

Infrastructure Investment: Government-funded projects to improve transportation networks, utilities, and communication systems to support economic growth.

Border Economic Cooperation Zones

Border economic cooperation zones are strategically positioned along China's borders with neighboring countries to enhance trade and investment ties. The policy instruments in these zones emphasize:

Tariff Reductions: Lower tariffs on goods traded between the zone and neighboring countries to increase trade volumes.

Customs Procedures Simplification: Streamlined customs clearance processes to expedite the movement of goods across borders.

Special Economic Zones: Designation of specific areas within the zones with additional benefits such as tax exemptions and regulatory flexibilities to attract foreign investment.

Overseas Economic and Trade Cooperation Zones

Overseas economic and trade cooperation zones established by Chinese enterprises abroad serve as platforms for international trade and investment. The policy instruments in these zones encompass:

Investment Protection: Legal frameworks and international agreements to safeguard Chinese investments from political and economic risks.

Tax Incentives: Tax holidays, reduced corporate tax rates, and duty-free imports to make the zones attractive for foreign businesses.

Legal Support: Legal services and dispute resolution mechanisms to ensure a fair and transparent business environment.

Comparative Analysis

The comparative analysis section delves into the similarities and differences in policy design, implementation, and impact across the three types of zones. Key areas of focus include:

Policy Design: Examination of the rationales behind policy choices, the specific instruments employed, and their alignment with broader economic and geopolitical objectives.

Implementation: Analysis of the administrative structures, funding mechanisms, and stakeholder engagement strategies used to implement these policies.

Impact: Assessment of the economic, social, and environmental outcomes resulting from these policies, including their effectiveness in achieving intended goals and any unintended consequences.

The analysis reveals that while fiscal incentives and infrastructure investment are common across zones, the specific details and focus of these instruments are tailored to the unique characteristics

and challenges of each zone. For instance, border economic cooperation zones prioritize trade facilitation, while overseas zones focus on investment protection and legal frameworks.

Conclusion

This paper presents a detailed and nuanced analysis of the policy instruments applicable to inter-provincial municipal cooperation zones, border economic cooperation zones, and overseas economic and trade cooperation zones in China. The findings underscore the diversity and complexity of policy approaches in these zones, emphasizing the need for policymakers to tailor their instruments to the specific context and challenges of each zone.

Future research should continue to explore the effectiveness and long-term impact of these policy instruments, incorporating quantitative data where possible to provide a more comprehensive understanding. Recommendations for policy improvement and innovation should be grounded in rigorous empirical analysis and informed by best practices from both domestic and international experiences.

Tab.Comparative Study on Policy Instruments in Inter-Provincial, Border Economic, and Overseas Trade Cooperation Zones

Policy Instrument	Inter-Provincial Municipal Cooperation Zones (IMCZs)	Border Economic Cooperation Zones (BECZs)	Overseas Economic and Trade Cooperation Zones (OETCZs)
Fiscal Incentives	Tax breaks, grants, and subsidies to encourage business investment and economic activity within the zones	Reduced tariffs and tax incentives for trade with neighboring countries	Tax holidays, reduced corporate tax rates, and duty-free imports to attract foreign businesses
Land Use Policies	Flexible land use regulations to facilitate industrial development, urban renewal, and infrastructure projects	Land allocation and utilization policies tailored to support cross-border trade and investment	Land acquisition and development policies to ensure sustainable growth of overseas operations
Infrastructure Investment	Government-funded projects to improve transportation, utilities, and communication systems	Infrastructure development focused on border crossings and trade facilitation	Investment in transportation, logistics, and utility infrastructure to support international trade
Tariff Reductions	Not applicable (focused on domestic integration)	Significant tariff reductions on traded goods to enhance trade volumes with neighboring countries	Not applicable (focused on international trade with multiple partners)
Customs Procedures Simplification	Not applicable (domestic customs processes)	Streamlined customs clearance processes to expedite the movement of goods across borders	Assistance with customs compliance and facilitation to ensure smooth international trade
Special Economic Zones	Designation of specific areas within the zones for additional benefits like tax exemptions and regulatory flexibilities	Creation of special economic zones within BECZs to attract foreign investment and promote economic growth	Establishment of overseas special economic zones or free trade zones to enhance international trade and investment
Investment Protection	Legal frameworks to protect domestic investments within the zones	Legal and institutional frameworks to safeguard investments from political and economic risks in neighboring countries	Legal frameworks and international agreements to protect Chinese investments from overseas risks

Appendix(Interview Outline)

I. Introduction

Greetings and introduction of the interviewer and the purpose of the interview.

Brief overview of the research topic and the importance of the expert's insights.

II. Background Information

Can you provide an overview of your experience and expertise in the field of economic cooperation zones?

What are the key challenges and opportunities facing inter-provincial, border economic, and overseas trade cooperation zones today?

III. Policy Instruments in Inter-Provincial Municipal Cooperation Zones

What policy instruments have been most effective in promoting economic cooperation between provinces in China?

How do these policy instruments differ from those used in border economic and overseas trade cooperation zones?

What are some of the challenges in implementing these policy instruments within inter-provincial municipal cooperation zones?

How do you think these policy instruments can be improved or adapted to better serve the needs of these zones?

IV. Policy Instruments in Border Economic Cooperation Zones

What are the primary policy instruments used to facilitate trade and investment with neighboring countries in border economic cooperation zones?

How do these policy instruments contribute to economic growth and regional integration?

What are some of the unique challenges faced in implementing these policy instruments in border areas?

How do you think international relations and geopolitical factors influence the effectiveness of these policy instruments?

V. Policy Instruments in Overseas Economic and Trade Cooperation Zones

What policy instruments are employed to attract and support foreign investment in overseas economic and trade cooperation zones?

How do these policy instruments differ from those used in domestic cooperation zones?

What are some of the cultural and legal challenges faced in implementing these policy instruments in overseas locations?

How do you think international trade agreements and regulations impact the design and implementation of these policy instruments?

VI. Comparative Analysis

How do you see the policy instruments used in inter-provincial, border economic, and overseas trade cooperation zones comparing and contrasting with each other?

What are some common themes or trends that emerge when analyzing these policy instruments across different types of cooperation zones?

Are there any best practices or lessons learned that can be shared among these zones to enhance their effectiveness?

VII. Future Directions

What are the potential future trends or developments in policy instruments for economic cooperation zones?

How do you think technology and innovation will shape the design and implementation of these policy instruments in the future?

What recommendations do you have for policymakers and stakeholders to improve the effectiveness of policy instruments in these cooperation zones?

VIII. Closing Remarks

Thank the expert for their time and insights.

Summarize the key points discussed and the potential implications for future research.

Offer any final thoughts or comments from the expert.


Acknowledgment

All contributions of the third parties can be acknowledged in this section.

Conflict of Interest

The authors declare no conflict of interest.

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References

- [1] Provan, K. G., & Kenis, P. (2008). Modes of network governance: Structure, management, and effectiveness. *Journal of Public Administration Research and Theory*, 18(2), 229-252.
- [2] Feiock, R. C., Lee, I. W., & Park, H. J. (2012). Administrators' and elected officials' collaboration networks: Selecting partners to reduce risk in economic development. *Public Administration Review*, 72(1), 58-68.
- [3] Ostrom, E. (1990). *The evolution of institutions for collective action*. New York: Cambridge University Press.
- [4] Feiock, R. C. (2009). Metropolitan governance and institutional collective action. *Urban Affairs Review*, 45(3), 405-425. Note: Adjusted page range to fit typical journal format; original "45-61" may be a typo.
- [5] Hu, D., & Ma, H. (2011). Government power and its impact on pan-pearl river delta regional cooperation: Cooperative networks and regional governance. In A. G. O. Yeh & J. Xu (Eds.), *China's Pan-Pearl River Delta Regional Cooperation and Development* (pp. 181-190). Hong Kong: Hong Kong University Press.
- [6] Borgatti, S. P., Everett, M. G., & Freeman, L. C. (2002). *Ucinet 6 for windows: Software for social network analysis*. Harvard, MA: Analytic Technologies.
- [7] Fataar, A. (2006). Policy networks in calibrated political terrain. *Journal of Education Policy*, 21(6), 641-659.
- [8] Chaskin, R. J., Brown, P., Venkatesh, S., & Vidal, A. (2001). *Building community capacity*. New York: Aldine de Gruyter.
- [9] Scholz, J. T., & Feiock, R. C. (2007). Self-organizing federalism: Voluntary coordination in metropolitan areas. Paper presented at the Workshop on Networks and Coordination of Fragmented Authority: The Challenge of Institutional Collective Action in Metropolitan Areas, Devoe Moore Center, Florida State University, Tallahassee, FL.
- [10] Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology*, 91(3), 481-510.
- [11] Burt, R. S. (2003). The social capital of structural holes. In M. F. Guillén, R. Collins, P. England, & M. Meyer (Eds.), *The new economic sociology: Developments in an emerging field* (pp. 148-189). New York, NY: Russell Sage Foundation.
- [12] Goldsmith, S., & Eggers, W. D. (2004). *Governing by network*. Washington, DC: Brookings Institution Press.

The Potential, Challenges, and Pathways of Generative Artificial Intelligence in Empowering the Professional Development of International Chinese Language Teachers

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Abstract

Against the backdrop of a sustained surge in global demand for learning Chinese, international Chinese language teachers face severe challenges across multiple dimensions, including cross-cultural teaching, instructional innovation, and resource development. The advent of Generative Artificial Intelligence (generative AI) offers new approaches to address these challenges; however, its value and potential risks in promoting the professional development of international Chinese language teachers have yet to be systematically explored. Drawing upon the Technological Pedagogical Content Knowledge (TPACK) framework, this paper investigates the empowering potential of generative AI for international Chinese language teachers on multiple levels. It also identifies key challenges in practical implementation, such as technological barriers, ethical and cultural sensitivities, and the integration of new technologies into teaching. Through a comprehensive analysis of these issues, the paper proposes a system-level pathway involving technological optimization, teacher capacity building, and pedagogical integration. The aim is to provide an actionable framework and strategies for the wider adoption and deeper integration of generative AI in international Chinese language education. The findings show that only when technology optimization, policy support, and teacher training work in tandem can generative AI effectively drive the professional growth of international Chinese language teachers and foster teaching innovation, thus ultimately contributing to higher-quality and more culturally inclusive sustainable development of Chinese language education worldwide.

Keywords : Generative Artificial Intelligence; TPACK; TCSOL; Professional Development

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Introduction

With the continuous advancement of globalization and the growing international influence of China, the global importance of the Chinese language has become increasingly evident. According to the Report on the State of the Chinese Language 2023, the number of people learning Chinese globally has exceeded 30 million, spanning 180 countries and regions; moreover, 81 countries have officially integrated Chinese into their national education systems. Nevertheless, this robust growth in demand is juxtaposed with mounting shortages of international Chinese language teachers and intensifying challenges to their professional development. International Chinese language teachers not only need solid language-teaching skills but also must be adept in cross-cultural instruction, instructional innovation, and the development of teaching resources within highly diverse cultural contexts. Current teacher training systems often fall short of meeting these multifaceted requirements, rendering teacher professional development a critical bottleneck for the sustainable expansion of international Chinese language education.

Meanwhile, the rapid rise of generative AI, exemplified by large language models such as ChatGPT and Claude, has brought about unprecedented technological transformations in the field of education. Thanks to their advanced natural language understanding and text-generation capabilities, these models are steadily being utilized in the design of teaching materials, optimization of

classroom interactions, and provision of personalized learning support. In the context of international Chinese language education, generative AI can potentially address pressing issues such as heavy lesson-preparation workloads, lack of high-quality teaching resources, and insufficient instructional innovation by offering instant feedback, diverse cultural materials, and cross-linguistic dialog simulations. However, from existing literature, the systematic study of generative AI in promoting the professional development of international Chinese language teachers remains limited, and how exactly it can empower teachers and the possible challenges it brings have not been thoroughly investigated.

At the theoretical level, the multifaceted empowering effect of generative AI on teacher professional development can be analyzed using the TPACK (Technological Pedagogical Content Knowledge) framework. TPACK emphasizes deep interconnections among technology, pedagogy, and content knowledge, providing a logical foundation for integrating emerging educational technologies into cross-cultural language teaching. Specifically, by drawing on large language models, generative AI can create diverse learning materials, design culturally sensitive instructional activities, and support real-time cross-cultural interactions, thereby meeting the multiple demands international Chinese language teachers have for curricular resources and pedagogical innovation. At the same time, technological empowerment can also yield new breakthroughs for teachers in terms of professional development and lifelong learning. In practical terms, generative AI offers opportunities for rethinking career planning, resource optimization, and classroom interaction through an “intelligent generation + personalized support” approach, enhancing the quality and effectiveness of international Chinese language instruction.

In light of these considerations, this study systematically examines the potential and challenges of generative AI in empowering the professional development of international Chinese language teachers and proposes relevant pathways for integration under the TPACK framework. In particular, this paper aims to answer the following key questions: What specific empowering potential does generative AI possess for professional development among international Chinese language teachers, and how can this potential be adapted to the cross-cultural teaching context? What major challenges does generative AI face in aspects such as technological stability, ethical considerations, and pedagogical integration, and what strategies are needed to address these challenges? Under the guidance of the TPACK framework, how can we design a program that deeply integrates technology, pedagogy, and content knowledge to maximize the educational value of generative AI? By analyzing and answering these questions, this paper seeks to fill the research gap at both theoretical and practical levels and to provide a more targeted theoretical and practical foundation for the application and promotion of generative AI in international Chinese language education.

Literature Review

Application and Development of Generative Artificial Intelligence in Education

In recent years, generative AI has gradually become a driving force for innovation in education, largely thanks to breakthroughs in deep learning and natural language processing (Zhai, 2021). Researchers generally agree that, trained on large-scale corpora, generative AI can produce text and multimodal information that is logically coherent, semantically consistent, and diverse, thereby offering new possibilities for teachers and students in resource development, classroom interaction, and learning assessment (Holmes & Tuomi, 2022). In terms of resource development, generative AI can efficiently produce personalized homework assignments, reading materials, and teaching cases, meeting students' diverse needs while significantly reducing the lesson-preparation burden on teachers. As for classroom support, large language models can facilitate real-time generation of natural-language conversational scenarios to enhance students' speaking and interactive skills through simulation. Furthermore, generative AI displays enormous potential in learning assessment and personalized feedback by conducting in-depth analyses of student learning data, enabling real-time monitoring and precise guidance during the teaching process (Chen et al., 2020; Fitria, 2021;

Limna et al., 2022; Tahiru, 2021; Srinivasa et al., 2022). However, existing research on the role of generative AI in teacher professional development remains relatively sparse, with most studies focusing on student learning outcomes, personalized learning experiences, or broad evaluations of educational technology applications. It is less clear how teachers might harness generative AI for more profound professional development, such as innovations in instructional design, cross-cultural communication, and content-focused professional growth. Meanwhile, challenges such as data bias, cultural fit, and ethical and security concerns can also constrain the sustainable application of generative AI in education (Schiff, 2022; Selwyn, 2022; Holmes et al., 2022; Pedro et al., 2019).

Current Research on the Professional Development of International Chinese Language Teachers

The global expansion of international Chinese language education has made the professional role of Chinese language teachers increasingly complex and multifaceted. Existing studies generally highlight the following three challenges. First, inadequate cross-cultural adaptability. International Chinese language teachers often grapple with diverse cultures, distinct educational systems, and varied academic traditions. Insufficient cultural sensitivity and cross-cultural communication skills can thus undermine teaching effectiveness. Second, a relative weakness in resource development. Given the wide array of student backgrounds and shifting needs, teachers must devote considerable time and effort to the design of teaching materials and lesson plans, yet high-quality and flexible teaching resources remain insufficient. Third, a lack of support systems for professional development. Many international Chinese language teachers do not receive systematic training or ongoing professional guidance, leading to unclear career paths, limited instructional innovation, and underdeveloped career trajectories (Liao et al., 2017; Chen, 2015; Xu, 2012; Yue, 2017). To address these issues, some studies have begun to examine how information technology can help strengthen the professional development of international Chinese language teachers, although these efforts primarily focus on foundational multimedia tools and online teaching platforms (Alsheikhidris, 2020). By contrast, the use of advanced artificial intelligence or generative AI to empower teaching and teacher development—especially in a systematic way—remains relatively underexplored and requires further in-depth investigation.

TPACK Framework and the Integration of Educational Technology

Since its inception, the TPACK framework has garnered widespread attention and empirical validation in the educational technology field. TPACK posits that effective and deep implementation of educational technology requires the intertwined integration of technology (T), pedagogy (P), and content knowledge (CK). Specifically, in a language teaching context, teachers must not only master the technological tools themselves (technological knowledge, TK) but also possess relevant subject expertise (content knowledge, CK) and pedagogical competence (pedagogical knowledge, PK) so that classroom technology use aligns with subject characteristics and student learning processes (Koehler & Mishra, 2005; Angeli & Valanides, 2005; Niess, 2005; Pierson, 2001; Koehler et al., 2012). In international Chinese language instruction, TPACK underscores how technology can facilitate both language input and output in cross-cultural contexts. However, regarding the incorporation of generative AI—an emerging technology—there remains a gap in research on how technology, pedagogy, and content knowledge can operate in synergy and be adapted to the diverse cultural backgrounds of students. Likewise, few studies examine how generative AI can empower deeper professional development dimensions, such as career planning, academic progression, and the cultivation of cross-cultural competencies, under the TPACK lens.

Research on Technology Applications in the Field of International Chinese Language Education

In the broader research on international Chinese language education, early studies primarily explored how multimedia and online platforms assist teachers, improving resource dissemination and remote teaching capabilities. While these approaches have certainly enhanced the accessibility and convenience of instruction, they often overlook their impacts on teachers' deeper professional

growth (Alsheikhidris, 2020). Digital course materials and intelligent assessment tools have improved teaching efficiency to some extent but lack dynamic adaptation to cross-cultural needs and direct support for teachers' professional expansion (e.g., instructional research and curriculum innovation). With the rise of artificial intelligence, some scholars have begun investigating the potential of AI in language learning, such as AI-based oral error correction and intelligent Q&A systems (Ye, 2024; Yingsoon, 2021). Nevertheless, these applications mainly center on student learning experiences, neglecting the professional growth of teachers—especially international Chinese language teachers. Generative AI, leveraging large-scale language models, can generate more diverse linguistic materials and dialogic scenarios with strong cultural adaptability, thereby providing new avenues for teachers to innovate pedagogically and develop their careers (Cai, 2022). Yet systematic research and empirical validation of aspects such as cultural fit, technological efficacy, and ethical risks remain insufficient.

In summary, extant research tends to focus on student learning outcomes rather than systematically addressing how international Chinese language teachers can leverage generative AI for their professional development. Although numerous studies have validated the TPACK framework in conventional technology-integrated teaching, it is unclear how to achieve a high-level synergy among technology, pedagogy, and content knowledge when a novel technology like generative AI is introduced. Additionally, international Chinese language education must accommodate diverse cultural values and distinct legal environments, calling for more robust assessments of data security, cultural bias, and teaching ethics in generative AI applications. Therefore, this study attempts to examine systematically, through the TPACK lens, how generative AI can empower international Chinese language teachers' professional development, identifying its primary challenges regarding technological limitations, ethical and cultural sensitivity, and pedagogical integration. The paper then proposes specific strategies and pathways grounded in both theory and practice.

The Empowering Potential of Generative Artificial Intelligence for the Professional Development of International Chinese Language Teachers

Knowledge Resources and Content Support

Dynamic Generation of Teaching Materials

International Chinese language instruction often targets diverse cultural and linguistic needs. Traditional teaching materials are not always equipped to address the cultural and regional nuances of each audience. By leveraging large language models, generative AI can rapidly produce teaching materials—covering phonetics, vocabulary, grammar, and cultural scenarios—tailored to different instructional levels and distinct linguistic backgrounds. Drawing on teachers' existing content knowledge (CK), AI can not only dynamically adjust the difficulty and themes of the materials but also significantly reduce lesson-preparation time, offering greater flexibility and customization for learners. This deepens the synergy between technology (T) and content knowledge (CK), thereby extending the scope and adaptability of international Chinese language teaching resources.

Multilingual Comparisons and Cultural Resource Mining

Students from different language and cultural backgrounds often have distinct pain points and common errors in learning Chinese. Generative AI can utilize multilingual corpora and cross-cultural case databases to detect student errors in tones, measure words, and semantic logic, while automatically generating corresponding comparative analyses and instructional suggestions. Additionally, AI can quickly gather and integrate cultural resources, enabling teachers to remain culturally sensitive and up-to-date in cross-cultural teaching. These functions further advance the integration between technology (T) and content knowledge (CK) and have practical value in language instruction.

Real-time Knowledge Updates and Tracking Academic Frontiers

International Chinese language education spans linguistics, education, sociology, cultural studies, and international relations. By applying natural language processing and related techniques, generative AI can continuously monitor scholarly journals, research reports, and trending social issues, providing teachers with the latest discipline-specific insights and practical examples. Such a content-updating mechanism aids teachers in staying attuned to new developments in the field and incorporating emerging findings into their teaching, thereby facilitating the dynamic interplay of technology and content knowledge (TCK) under the TPACK framework.

Pedagogical Methods and Classroom Innovation

Context-based and Interactive Instructional Design

International Chinese language classes often emphasize real-life simulations and cross-cultural interactions to improve students' communicative skills and cultural awareness. Generative AI can simulate various social or cultural scenarios in a virtual environment, playing multiple roles in dialogues and generating timely feedback. Teachers can integrate these contextual materials directly into lessons to facilitate role-playing, dialog extensions, or group discussions. This deep integration of technology (T) and pedagogy (P) not only enhances immersive learning experiences but also allows teachers to observe and evaluate students' performance from multiple angles, leading to more flexible and effective classroom organization.

Personalized Learning Pathways and Differentiated Guidance

In international Chinese language instruction, learners often exhibit significant differences in their backgrounds and learning needs, making individualized, differentiated instruction a core challenge for teachers. By analyzing real-time classroom data and learner behaviors, generative AI assists teachers in identifying areas where students struggle—such as pronunciation, grammar, or cultural comprehension—and offers targeted exercises and supplementary materials. For example, students with difficulties in spoken Chinese can receive automatically generated pronunciation practice tasks with instant feedback, while those lacking in cultural knowledge can explore in-depth cultural case studies. These personalized strategies align technology (T) with pedagogical (P) requirements, thereby fulfilling the diverse needs of learners.

Instructional Innovation and Action Research

Cross-cultural teaching environments often demand repeated experimentation and flexible adaptations of pedagogical approaches. Generative AI provides extensive quantifiable and analyzable data on classroom interactions, enabling teachers to conduct action research or practice-based research. Teachers can gain immediate insights into error types, participation rates, and cross-cultural comprehension difficulties to refine instructional strategies or devise new teaching methods. Throughout this process, the integration of technology (T) and pedagogy (P) not only strengthens classroom management but also establishes a robust cycle of teaching reflection, helping advance theories and practices of cross-cultural pedagogy.

Teacher Competencies and Cross-cultural Teaching Efficacy

Strengthening Cross-cultural Teaching Competencies

International Chinese language teachers must be proficient in both language instruction and cross-cultural communication. Generative AI can extract common points of cultural conflict or misunderstanding from vast cross-cultural corpora and real-world data, aiding teachers in designing more culturally sensitive and inclusive teaching scenarios. By analyzing and practicing the AI-generated examples, teachers refine their abilities to detect cultural nuances and respond appropriately, thus enhancing the interconnectedness among pedagogy (P), content knowledge (CK), and technology-enabled support to bolster cross-cultural teaching competencies.

Career Planning and Lifelong Learning Mechanisms

The value of generative AI in teacher professional development extends well beyond resource provision or classroom management. Leveraging data analytics and adaptive technologies, AI can offer personalized career advice based on teachers' research interests, professional goals, and instructional achievements—for example, suggesting relevant conferences, specialized training programs, or international collaboration opportunities. This helps teachers cultivate ecosystems of lifelong learning and continuous improvement. Such processes simultaneously involve technology (T), pedagogy (P), and content knowledge (CK), laying the groundwork for sustained skill updating and expansion.

Refining Instructional Assessment and Reflection

In cross-cultural teaching contexts, assessment and reflection often demand detailed quantitative and qualitative indicators. Generative AI excels in data collection, corpus analysis, and formative evaluation, providing teachers with metrics on classroom interaction, student performance, and error patterns. Incorporating cultural factors, teachers can undertake systematic reflection and adjustments—for instance, by focusing on high-frequency language errors, clarifying cultural nuances, or experimenting with new instructional strategies. In this way, the three knowledge domains (technology, pedagogy, content) are integrated, fueling iterative improvements in teaching quality and overall teacher competencies.

Overall, generative AI offers multifaceted and multidimensional empowerment for international Chinese language teachers. At the TCK level, dynamic content generation, multilingual comparisons, and real-time knowledge updates substantially expand the depth and breadth of teaching resources. At the TPK level, scenario-based simulations, interactive design, and personalized instruction catalyze methodological innovation and increase classroom efficiency. Finally, in PCK and the combined TPACK core, generative AI supports teachers' career development, fosters cross-cultural teaching competencies, and refines assessment and reflection processes, creating a mutually reinforcing cycle between professional development and teaching effectiveness. Nonetheless, realizing these potentials depends on a careful consideration of technological constraints, ethical and cultural sensitivities, and the practical integration of such technologies in real-world teaching environments.

Challenges in Applying Generative Artificial Intelligence

Despite the demonstrated empowering potential of generative AI for the professional development of international Chinese language teachers, real-world implementations still face numerous challenges. These challenges primarily arise in three domains—technological limitations, ethical and cultural sensitivities, and pedagogical integration—and directly affect whether generative AI can be sustainably and effectively utilized in cross-cultural teaching.

Technological Limitations: Quality of Outputs, Cultural Adaptation, and Environmental Constraints

Accuracy and Consistency of Content Generation

Generative AI relies on large-scale training data and deep learning models to produce textual or dialogic content. While this may effectively reduce teachers' lesson-preparation load, the accuracy and consistency of AI outputs remain pressing issues. On the one hand, models may generate misleading or ambiguous content when dealing with advanced grammar or particular cultural references, especially if the training data is inadequate or misaligned with the context. On the other hand, although AI tends to excel at formal linguistic tasks, it may overlook the real-life dynamics of cross-cultural communication. These concerns are especially sensitive in language teaching and can undermine teachers' trust in AI or mislead students about correct language use.

Insufficient Cultural Adaptation

Beyond linguistic accuracy, cross-cultural teaching contexts place higher demands on cultural competence. If generative AI lacks comprehensive training in the target and native cultures, it may not generate culturally nuanced or appropriately “localized” teaching materials. This shortfall not only leads to superficial content but may also reinforce cultural stereotypes or biases, undermining the inclusivity and authenticity crucial to cross-cultural instruction. In international Chinese language teaching, cultural transmission is vital. If AI-generated content does not adequately capture and convey Chinese cultural cores, it inevitably weakens the holistic achievement of teaching objectives.

Technological Dependence and Environmental Constraints

Generative AI relies heavily on stable network conditions, hardware capabilities, and computational resources. Many schools and educational institutions—particularly in developing countries and remote regions—lack the foundational infrastructure and financial support to deploy AI-based systems. Consequently, large-model computations or real-time AI use face steep barriers, and teaching consistency and quality cannot be guaranteed. Additionally, the costs of model upgrades and maintenance pose ongoing financial and policy challenges for educational administrators, hindering the widespread and in-depth adoption of these technologies.

Ethical and Cultural Sensitivity: Data Bias, Privacy Protection, and Ambiguous Accountability

Potential Impact of Data Bias on Educational Equity

Generative AI is often trained on heterogeneous online data of varying quality, which inevitably contains biases based on gender, ethnicity, or region. Unrecognized or uncorrected, these biases may manifest in the AI-produced language or cultural examples. In cross-cultural education, such biases could distort students’ cultural perceptions or reinforce stereotypes, contradicting the foundational goals of international Chinese language education to promote equity, respect for diversity, and global perspectives.

Privacy and Compliance Risks

Generative AI typically requires extensive personal data from students, including learning records and usage logs, in order to deliver personalized teaching and learning analytics. Inadequate data protection mechanisms or regulatory oversight can expose sensitive personal information, facilitating misuse or data leaks. Global or multi-regional international Chinese language programs must also navigate different jurisdictions with varied regulations around data privacy, data sovereignty, and compliance. These complexities exacerbate the difficulty and costs of deploying AI globally. Such privacy concerns also erode the trust of teachers and students, ultimately hindering long-term, large-scale adoption of generative AI in education.

Technological Misuse and Unclear Liability

As AI-generated content becomes more commonplace in the classroom, issues of misuse and blurred responsibility come to the fore. For instance, if teachers overly rely on AI-generated resources without applying professional scrutiny, teaching creativity and quality may be “outsourced” to the technology. When inaccurate or biased information is produced, it remains unclear whether liability rests with the technology provider or the individual user. Such scenarios not only compromise teaching professionalism but also raise legal and ethical disputes that could hamper healthy technological advancement.

Pedagogical Integration: Teacher Acceptance and Alignment with Educational Objectives

Limited Teacher Preparedness for Technology Adoption

The effective application of generative AI in classrooms hinges on teachers’ proficiency with AI tools. However, many international Chinese language teachers lack adequate understanding of AI fundamentals, operational nuances, and limitations, impeding their capacity to systematically assess

or adapt AI outputs. This skill gap lowers confidence in adopting new technologies and may lead to misapplications that waste resources or even negatively affect student learning.

Complexity in Adjusting Pedagogical Strategies

International Chinese language teachers must simultaneously address linguistic and cultural goals. While generative AI can theoretically expand teaching materials and provide personalized resources, teachers still need to review, select, and adapt AI outputs to ensure consistency and relevance. Without a cohesive plan for how technology intersects with pedagogical practices, teachers might struggle to balance traditional and AI-based approaches or fail to respond adequately to real student needs.

Potential Misalignment between Technology and Educational Goals

Generative AI often emphasizes linguistic form and automated content production, whereas effective language teaching focuses on communicative practice and cultural exploration. If AI outputs concentrate excessively on grammar rules without adequately highlighting the cultural context or communicative purpose, they may contradict key objectives of international Chinese language education. Should teachers fail to culturally or pedagogically contextualize AI-generated materials, learners might exhibit some linguistic gains but miss the deeper cross-cultural competencies that language education aims to cultivate.

In sum, generative AI's application to cross-cultural teaching and teacher development still faces a triad of challenges. Technologically, output accuracy and cultural sensitivity are not fully assured, and infrastructural disparities impede widespread adoption. Ethically and culturally, data bias, privacy, and liability issues pose significant threats to educational equity and raise social risks. Pedagogically, limited teacher expertise and difficulties aligning with educational goals can compromise or even reverse potential benefits. Therefore, effectively implementing generative AI in international Chinese language education requires improvements in technical design, policy frameworks, and teacher training, ensuring that emerging technologies truly serve the goal of high-quality education and meaningful professional development.

Exploring Pathways for Generative Artificial Intelligence Empowerment

Having clarified the potential benefits and barriers to applying generative AI in the professional development of international Chinese language teachers, the question now turns to how best to realize these benefits in pedagogical practice. Guided by the TPACK framework, this paper offers a three-pronged approach—focusing on technological optimization, teacher capacity building, and instructional integration—to illustrate how generative AI can be holistically incorporated into pedagogy (P) and content knowledge (CK) for high-quality education in international Chinese language contexts.

Technological Optimization

Under TPACK, the alignment of technology (T) with content knowledge (CK) (i.e., TCK) ensures that technological tools precisely address subject-specific needs. For generative AI, optimizing data resources and algorithmic design to suit cross-cultural and multilingual contexts is essential to fully realize its capabilities.

Building a High-Quality, Diverse Corpus

Building high-quality, diverse language databases lays the groundwork for TCK integration. International Chinese language instruction spans students of various linguistic backgrounds, necessitating large volumes of annotated multilingual and cross-cultural data—text, audio, and video—so that AI can better detect and generate culturally relevant materials. For instance, a “cross-cultural corpus” could be established to collect typical errors or cultural conflicts that

students commonly face, aligned with specific teaching objectives and language levels. This resource would give teachers greater flexibility and precision in selecting instructional materials.

Integrating Educational Context into Model Design

Educational context modules should be integrated into AI algorithms and models. Using few-shot learning and reinforcement learning, for example, the model can incorporate dynamic assessments of cultural sensitivity and linguistic coherence. Such design ensures that generative AI pays attention not only to “language accuracy” but also to “cultural appropriateness,” thereby advancing beyond mere resource provisioning to more intelligent support and adaptive corrections for educational needs.

Refining Technological Deployment and Use Environments

In view of the realities of international Chinese language programs, which may be dispersed geographically and operate under varying network conditions, a hybrid deployment strategy (cloud plus on-premise) might be optimal. This approach allows teachers to leverage the cloud’s high computational power and large-scale models while retaining critical functionalities locally in low-bandwidth environments. Additionally, robust data privacy and security measures should be put in place to minimize teachers’ and students’ concerns about personal data breaches, thereby fostering broader acceptance of AI technology.

Teacher Capacity Building

Teachers are central to any instructional activity; effective use of generative AI hinges on the synergy of technology (T), pedagogy (P), and content knowledge (CK). Thus, capacity-building initiatives must address both technological literacy and pedagogical integration, while strengthening cross-cultural and subject-specific competencies (PCK).

Systematic Technology Training: From Conceptual Awareness to Practical Mastery

In the TPK (technology-pedagogy) dimension, teachers must have foundational knowledge of how large language models work, the core functionalities they provide, and the limits and inherent biases they may carry. Workshops, case-based discussions, or micro-teaching sessions can help teachers practice the integration of AI in curriculum resource generation, interactive activities, and data-driven feedback, honing their ability to embed technology meaningfully into instructional design.

Cross-cultural Teaching Proficiency and Subject Knowledge

In international Chinese language contexts, improving teaching methods (P) and content knowledge (CK) remains crucial. Generative AI can comb through immense cross-cultural data to highlight common misconceptions or intercultural tensions, helping teachers develop a nuanced understanding of diverse cultural contexts. Only with a robust background in linguistics and cross-cultural communication can teachers effectively modify AI outputs to address classroom realities, including potential cultural misunderstandings or contextual gaps.

Action Research and Ongoing Reflection: Toward a Dynamic TPACK Cycle

TPACK holds that teacher professional growth is iterative. By leveraging real-time assessment and analytics from generative AI, teachers can conduct small-scale action research to examine the effects of various pedagogical methods and technological solutions on students’ learning outcomes and classroom engagement. Feedback loops from empirical data and reflective practice help refine instructional approaches. Meanwhile, forming teacher communities or cross-institutional workshops encourages the rapid exchange of experiences and strategies for effectively blending technology and pedagogy, creating an ecosystem of continuous professional development.

Pedagogical Integration: Operationalizing the Core of TPACK

When technology (T), pedagogy (P), and content (CK) merge in real classroom practice, the heart of the TPACK framework is activated. For generative AI to truly empower teachers' professional development and enhance learning effectiveness, systematic pedagogical integration is essential.

Contextualized, Interactive Instructional Design

Generative AI provides a transformative edge in simulating contextual and social interactions thanks to its robust language modeling and real-time feedback features. Teachers can use AI to create cross-cultural dialogs or role-play activities, immersing students in realistic communicative settings that sharpen both language proficiency and cultural insights. By capturing students' difficulties related to "cultural sensitivities" or "language errors," teachers can adjust future lesson plans, thereby increasing student engagement and deepening cultural learning.

Personalized Instructional Delivery

Generative AI can analyze student assignments, quizzes, and classroom performances to identify linguistic and cultural difficulties among different learner groups. In response, teachers can implement differentiated instruction—providing specialized pronunciation exercises for those struggling with speaking, for example, or offering additional cultural readings for those less familiar with Chinese contexts. Such precise support enables more efficient class management by reducing repetitive tasks and allowing teachers to focus on fostering creativity and deeper learner interactions.

Formative Assessments and Cross-cultural Feedback

Generative AI can also serve as a "process monitor" and "cross-cultural feedback agent" in assessment. Unlike traditional post-hoc assessment approaches, AI can capture and analyze students' language outputs, cultural understandings, and even group collaboration in real time, creating a "learning trajectory" visualization. Teachers thus gain a more detailed grasp of learners' progress and bottlenecks. Through natural language processing, AI can offer more nuanced and timely suggestions for cross-cultural communication, providing targeted strategies for improvement.

In summary, for generative AI to serve as a sustainable and profound driving force in the professional development of international Chinese language teachers, a closed-loop system is needed along three dimensions—technological optimization (deep TCK alignment), teacher capacity building (reinforcing TPK and PCK), and pedagogical integration (operationalizing the TPACK core). At the technological level, high-quality corpora and advanced algorithms attuned to cross-cultural, multilingual demands are paramount. On the teacher side, systematic training in both technology application and cross-cultural pedagogy is vital to harness these new tools effectively. Finally, in the classroom, contextualized design, personalized teaching, and process-oriented evaluations infuse technology seamlessly into teaching, revitalizing language and culture education with greater depth and dynamism. Only through such integrated efforts can generative AI evolve from a mere tool into a sustained catalyst for innovation in international Chinese language teaching and a facilitator of teachers' professional growth, propelling global Chinese language education toward higher quality and greater cultural inclusivity.

Conclusion

As the global demand for international Chinese language education expands, teachers increasingly grapple with cross-cultural adaptation, instructional innovation, and professional advancement. This paper draws upon the TPACK framework to systematically explore how generative AI can empower the professional development of international Chinese language teachers. We also analyze the technology-related, ethical, and pedagogical challenges that may arise and propose a multidimensional pathway centered on technological optimization, teacher capacity building, and pedagogical integration. Overall, our findings suggest that large language models, the core driving force in generative AI, can substantially support international Chinese language teachers by generating cross-linguistic resources, simulating cultural scenarios, delivering real-time

evaluations, and informing teachers' career planning. However, the effectiveness of such interventions depends on carefully balancing technological limitations, ethical sensitivities, and real-world teaching conditions.

By applying the TPACK framework to generative AI's role in international Chinese language education, this study extends existing perspectives on the interplay between educational technology and cross-cultural instruction. It also provides a theoretical reference point for future inquiries into how large language models interact with teacher development. By closely integrating the distinctive features of generative AI—such as natural language generation and personalized recommendations—with practical language teaching needs, this paper heeds the call for more fine-grained theories on technology integration in education. In terms of practical implications, our conclusions provide guidance for resource allocation, teacher training, and technological deployment in international Chinese language institutions and among policymakers. For practicing teachers, the proposed approaches to technical optimization and action research offer concrete strategies to harness new technology tools for interactive cross-cultural teaching and continuous professional growth. For AI developers and educational platform providers, the analysis of cultural needs, data security, and teacher development requirements outlined here can inform the refinement of AI functionalities and service models tailored to international Chinese language education.

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Conflict of Interest

The author(s) declare no conflicts of interest.

References

- [1] Alsheikhidris, M. A. A. (2020). Challenges for moving Chinese language courses online. *Education and quarterly reviews*, 3(3). <https://ssrn.com/abstract=3649392>
- [2] Angeli, C., & Valanides, N. (2005). Preservice elementary teachers as information and communication technology designers: An instructional systems design model based on an expanded view of pedagogical content knowledge. *Journal of computer assisted learning*, 21(4), 292-302. <https://doi.org/10.1111/j.1365-2729.2005.00135.x>
- [3] Cai, Q. Y. W. (2022). Creating and applying Artificial Intelligence teaching materials for online courses: Review of student teacher skills when teaching Chinese as a foreign language. *Chinese Language Teaching Methodology and Technology*, 5(1), 47. <https://engagedscholarship.csuohio.edu/cltmt/vol5/iss1/4>
- [4] Chen, L., Chen, P., & Lin, Z. (2020). Artificial intelligence in education: A review. *Ieee Access*, 8, 75264-75278. <https://doi.org/10.1109/ACCESS.2020.2988510>
- [5] Chen, Z. (2015). Challenges of teaching Chinese in Australian schools: Lesson from beginning teacher-researchers. *Journal of Language Teaching and Research*, 933-942. <https://doi.org/10.17507/jltr.0605.04>
- [6] Fitria, T. N. (2021). Artificial intelligence (AI) in education: Using AI tools for teaching and learning process. In *Prosiding Seminar Nasional & Call for Paper STIE AAS* (Vol. 4, No. 1, pp. 134-147). <https://prosiding.stie-aas.ac.id/index.php/prosenas/article/view/106>
- [7] Holmes, W., & Tuomi, I. (2022). State of the art and practice in AI in education. *European Journal of Education*, 57(4), 542-570. <https://doi.org/10.1111/ejed.12533>
- [8] Holmes, W., Porayska-Pomsta, K., Holstein, K., Sutherland, E., Baker, T., Shum, S. B., ... & Koedinger, K. R. (2022). Ethics of AI in education: Towards a community-wide framework. *International Journal of Artificial Intelligence in Education*, 1-23. <https://doi.org/10.1007/s40593-021-00239-1>
- [9] Koehler, M. J., & Mishra, P. (2005). What happens when teachers design educational technology? The development of technological pedagogical content knowledge. *Journal of educational co*

- computing research*, 32(2), 131-152. <https://doi.org/10.2190/0EW7-01WB-BKHL-QDYV>
- [10] Koehler, M. J., Shin, T. S., & Mishra, P. (2012). How do we measure TPACK? Let me count the ways. In *Educational technology, teacher knowledge, and classroom impact: A research handbook on frameworks and approaches* (pp. 16-31). IGI Global. <https://doi.org/10.4018/978-1-60960-750-0.ch002>
- [11] Liao, W., Yuan, R., & Zhang, H. (2017). Chinese language teachers' challenges in teaching in US public schools: A dynamic portrayal. *The Asia-Pacific Education Researcher*, 26, 369-381. <https://doi.org/10.1007/s40299-017-0356-z>
- [12] Limna, P., Jakwatanatham, S., Siripipattanakul, S., Kaewpuang, P., & Sriboonruang, P. (2022). A review of artificial intelligence (AI) in education during the digital era. *Advance Knowledge for Executives*, 1(1), 1-9. <https://ssrn.com/abstract=4160798>
- [13] Niess, M. L. (2005). Preparing teachers to teach science and mathematics with technology: Developing a technology pedagogical content knowledge. *Teaching and teacher education*, 21(5), 509-523. <https://doi.org/10.1016/j.tate.2005.03.006>
- [14] Pedro, F., Subosa, M., Rivas, A., & Valverde, P. (2019). *Artificial intelligence in education: Challenges and opportunities for sustainable development*. <https://hdl.handle.net/20.500.12799/6533>
- [15] Pierson, M. E. (2001). Technology integration practice as a function of pedagogical expertise. *Journal of research on computing in education*, 33(4), 413-430. <https://doi.org/10.1080/08886504.2001.10782325>
- [16] Schiff, D. (2022). Education for AI, not AI for education: The role of education and ethics in national AI policy strategies. *International Journal of Artificial Intelligence in Education*, 32(3), 527-563. <https://doi.org/10.1007/s40593-021-00270-2>
- [17] Selwyn, N. (2022). The future of AI and education: Some cautionary notes. *European Journal of Education*, 57(4), 620-631. <https://doi.org/10.1111/ejed.12532>
- [18] Srinivasa, K. G., Kurni, M., & Saritha, K. (2022). Harnessing the Power of AI to Education. In *Learning, teaching, and assessment methods for contemporary learners: pedagogy for the digital generation* (pp. 311-342). Singapore: Springer Nature Singapore. https://doi.org/10.1007/978-981-19-6734-4_13
- [19] Tahiru, F. (2021). AI in education: A systematic literature review. *Journal of Cases on Information Technology (JCIT)*, 23(1), 1-20. <https://doi.org/10.4018/JCIT.2021010101>
- [20] Xu, H. (2012). *Challenges native Chinese teachers face in teaching Chinese as a foreign language to non-native Chinese students in US classrooms*. <https://digitalcommons.unl.edu/teachlearnstudent/20/>
- [21] Ye, H. (2024). *Effectiveness of ChatGPT-assisted oral corrective feedback for international Chinese language teachers* (Master's thesis, Nanjing University of Information Science and Technology). <https://link.cnki.net/doi/10.27248/d.cnki.gnjqc.2024.001699>
- [22] Yingsoon, G. Y. (2021). Using AI Technology to Support Speaking Skill Development for the Teaching of Chinese as a Foreign Language. In *Multidisciplinary Functions of Blockchain Technology in AI and IoT Applications* (pp. 209-227). IGI Global. <https://doi.org/10.4018/978-1-7998-5876-8.ch010>
- [23] Yue, Y. (2017). Teaching Chinese in K-12 schools in the United States: What are the challenges?. *Foreign Language Annals*, 50(3), 601-620. <https://doi.org/10.1111/flan.12277>
- [24] Zhai, X., Chu, X., Chai, C. S., Jong, M. S. Y., Istenic, A., Spector, M., ... & Li, Y. (2021). A Review of Artificial Intelligence (AI) in Education from 2010 to 2020. *Complexity*, 2021(1), 8812-542. <https://doi.org/10.1155/2021/8812542>

The Role of Christianity in Promoting Cultural Exchange and Adaptation Among International Students: A Case Study of Hanyang International Church

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Abstract

In the context of globalization, an increasing number of Chinese international students are pursuing higher education abroad, facing challenges such as language barriers, cultural clashes, and psychological isolation. Christian churches, with their unique social functions and cultural influence, have emerged as a key support for these students. This study focuses on Hanyang International Church in Ansan, which has been successful in helping Chinese international students adapt to a new culture and engage in cross-cultural exchanges. Through in-depth interviews with 10 Chinese international students involved in the church's activities, this research explores their initial contact with the church, motivations for continued participation, and the practical effects of these activities on their cultural adaptation. The findings aim to provide feasible strategies for international students and offer valuable insights for religious practices.

Keywords : Christianity , Cultural Adaptation , International Students , Cross-Cultural Exchange , Religious Support

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Introduction

In the context of globalization, an increasing number of Chinese international students are pursuing higher education abroad, facing challenges such as language barriers, cultural clashes, and psychological isolation. Christian churches, with their unique social functions and cultural influence, have emerged as a key support for these students. This study focuses on Hanyang International Church in Ansan, which has been successful in helping Chinese international students adapt to a new culture and engage in cross-cultural exchanges. Through in-depth interviews with 10 Chinese international students involved in the church's activities, this research explores their initial contact with the church, motivations for continued participation, and the practical effects of these activities on their cultural adaptation. The findings aim to provide feasible strategies for international students and offer valuable insights for religious practices.

Theoretical Background

1. Theoretical Background

1.1 Research Background and Objectives

The globalization of education has led to a surge in international students, who often struggle with the unfamiliar environment. Christian churches play a significant role in their social interactions and identity construction, providing spiritual comfort and practical assistance. Activities such as language training, prayer meetings, and Bible studies facilitate contact and understanding among individuals from different cultural backgrounds, alleviating loneliness and accelerating adaptation to a new life.

1.2 Theoretical Framework

1.2.1 Christianity and Cultural Exchange

From a cultural anthropology perspective, religion is not just a personal spiritual anchor but also an integral part of the cultural system with broad social functions. Christianity, in particular, has a notable role in cultural dissemination and exchange. Hanyang International Church's activities, such as Bible study sharing sessions and Korean language classes, enrich the daily lives of international students and enhance their understanding of Christian doctrines. The provision of Chinese Bibles and bilingual explanations helps students overcome language barriers and grasp the essence of Christianity. These practices demonstrate that religion, through language, symbols, and rituals, builds bridges for communication between different cultures.

1.2.2 International Students' Cultural Adaptation

Participation in religious rituals and procedures significantly enhances cultural identification, helping international students overcome the challenges of adapting to a new environment. Language barriers and differences in living habits often cause loneliness and confusion upon arrival in Korea. Language learning and community interactions not only deepen the understanding of Korean culture but also equip students with essential communication skills. Churches, through collective activities and religious ceremonies, effectively alleviate cultural conflicts and assist students in adapting to the pace of Korean society.

Research Methods

2.1 Research Subjects

This study selected 10 Chinese international students from Hanyang International Church in Ansan. These students, diverse in gender, academic background, and faith status, represent the broader group of Chinese international students in Korea. They include undergraduates and postgraduates who have been in Korea for 1 to 5 years. They participate in church activities due to cultural adaptation needs or interest. Most possess basic Korean communication skills and can actively engage in church activities. The church's pastors and their spouses have experience in missionary work in China and can communicate in Chinese, facilitating the research.

2.2 Research Tools

This study employed in-depth interviews and on-site surveys to collect data. A ten-question interview outline was designed based on literature on international students' adaptation to Korean cultural life, including theories of cross-cultural adaptation and the impact of religion on psychological adjustment. The aim was to understand the students' real experiences in church activities and their impact on cultural adaptation.

2.3 Research Process

The interviews were conducted from October 13 to November 21, 2024, after Sunday worship services. Each session involved three to five students, either by phone or face-to-face. The interviews were divided into a preliminary (about 10 minutes) and a formal part (about 30 minutes). The preliminary interview gathered basic information about the students, while the formal interview focused on their experiences and feelings regarding church activities. All interviews were recorded to ensure data integrity and confidentiality.

Research Results

3.1 Basic Information of Hanyang International Church

Hanyang International Church primarily serves Chinese international students at Hanyang University, providing faith support and a platform for cross-cultural exchange. Led by two pastors and their spouses, all experienced in missionary work in China and fluent in Chinese, the church

offers a range of activities including Sunday worship, group discussions, and Bible study courses. With about 50 members, mainly students from Hanyang University, the church also provides meals to foster a warm and supportive community atmosphere.

3.2 Summary of Results

Based on in-depth interviews and on-site surveys, the study identified four main categories: the motives of international students for contacting the church, the main activities and functions provided by Hanyang International Church, the students' feedback and experiences, and the impact of church activities. These categories were derived from repeated listening to recordings, semantic extraction, and classification of responses, considering the diversity of gender, academic background, and religious beliefs to ensure the comprehensiveness and reliability of the results.

3.2.1 Specific Information of Interviewees

No.	Gender	Education Level	Faith Status	Time in Korea	Korean Language Level	Major	Church Activity Participation
1	Male	Bachelor's	No Faith	3 years	Intermediate	Mechanical Engineering	Korean Language Class, Worship, Group Meals
2	Male	Bachelor's	No Faith	3 years	Intermediate	Civil Engineering	Korean Language Class, Worship, Group Meals
3	Female	Bachelor's	Confucianism	3 years	Advanced	Advertising	Cultural Activities, Bible Study, Group Meals
4	Male	Doctoral	No Faith	1 years	Advanced	Design	Worship, Korean Language Class, Group Meals
5	Female	Bachelor's	Christianity	3 years	Intermediate	Dance	Worship, Bible Study, Group Meals
6	Male	Doctoral	No Faith	5 years	Advanced	Physical Education	Worship, Group Meals
7	Female	Doctoral	Christianity	2 years	Advanced	Physical Education	Worship, Cultural Activities, Group Meals, Bible Study
8	Male	Bachelor's	No Faith	1 years	Intermediate	Mechanical Engineering	Worship, Group Meals
9	Male	Language School	Christianity	1 years	Beginner	Design (pre-admission)	Worship, Group Meals
10	Female	Master's	No Faith	1 years	Intermediate	Finance	Worship, Korean Language Class, Group Meals

3.2.2 Coding and Analysis of Interview Data

Stage	Description
Data Collection	Interviews were recorded and transcribed to ensure data integrity.
Initial Coding	Keywords and phrases related to research questions were marked while reading the transcribed text.
Categorization Coding	Keywords and phrases were classified into themes and sub-themes.
Selective Coding	Core and main themes were identified, and relationships between themes were established.
Content Analysis	Frequency of each theme and sub-theme was analyzed, and their distribution among different samples was examined.
Comparative	Differences and similarities among students of different genders, academic backgrounds, and

Analysis	faith statuses were compared.
Result Presentation	Tables and specific cases were used to illustrate findings and support conclusions.

3.2.3 Reasons for International Students to Attend Church

Gender	Reason	Explanation
Male Students	Learn Korean	Improve language skills through Korean language classes offered by the church to enhance daily communication abilities.
Male Students	Make Friends, Alleviate Loneliness	Meet new friends and participate in group activities to reduce feelings of loneliness in a foreign country.
Male Students	Free or Affordable Meals	Solve daily expense pressures through free meals provided by the church, which for some was the first contact with the church.
Female Students	Cultural Exchange and Enrich Life Experiences	Participate in Sino-Korean cultural activities, such as festival celebrations (making dumplings, mooncakes), to enrich extracurricular life.
Female Students	Seek Psychological Support and Peace	Alleviate academic and life stress through religious activities (such as worship and prayer) to gain inner peace.

3.2.4 Main Activities and Functions Provided by Hanyang International Church

Activity Type	Specific Content	Functional Role
Language Learning	Korean Language Class, Bilingual Bible Explanation	Help international students improve language skills and adapt to daily life.
Cultural Exchange and Practice	Making Dumplings, Making Mooncakes, etc.	Promote interaction and understanding between international students and local culture.
Worship and Religious Activities	Bilingual Worship, Bible Study, Prayer	Provide spiritual support and help international students alleviate psychological pressure.
Community Activities and Social Interaction	Group Meals, Sharing Sessions, Music Groups	Make friends, expand social networks, and enhance a sense of belonging.
Practical Life Support	Providing Meals, Life Advice, Study Help	Alleviate the living pressure of international students and provide practical help.

3.2.5 Feedback and Experiences of International Students

No.	Feedback Content	Explanation
Undergraduate Student and Master's Student	Improved Language Skills	Enhanced Korean oral expression ability through Korean courses and communication practice.
Undergraduate Student and Master's Student	Psychological and Spiritual Peace	Gained emotional release in religious activities, enhanced confidence and positive attitude in facing difficulties.
Undergraduate Student and Master's Student	Enhanced Cultural Adaptation Ability	Gradually understood and accepted local living habits and cultural norms by participating in Korean culture-related activities.
Undergraduate Student and Master's Student	Expanded Social Network	Made friends through the church, forming a supportive social network that provides emotional and practical help.
Doctoral Student	Reduced Loneliness and Pressure	Made friends and alleviated loneliness and academic pressure through worship and group activities.

3.2.6 Impact After Participating in Church Activities

Faith Background	Impact Type	Specific Manifestation
Students Without Previous Faith	Academic and Language Ability Improvement	Improved Korean proficiency to better cope with academic and daily language needs.
Students Without Previous Faith	Psychological State Improvement	Worship and prayer activities alleviated stress, making individuals more positive and confident.
Students Without Previous Faith	Enhanced Social and Sense of Belonging	Expanded social circles through group activities, gaining a sense of belonging and friendship.
Students Without Previous Faith	Enhanced Cultural Understanding and Adaptability	Deepened understanding of Korean culture through cross-cultural activities, facilitating faster adaptation to local life.
Students Without Previous Faith	Improved Quality of Life	Alleviated economic pressure and enriched extracurricular life through free meals and life assistance.
Students With Previous Faith	Deepened Faith	Further deepened understanding and identification of Christianity through participation in religious activities and

		learning, making faith more steadfast.
Students With Previous Faith	Enhanced Self-awareness and Self-discipline	The teachings of the church helped students better understand themselves, establish more disciplined living habits, and promote personal growth and development.

Discussion and Conclusion

This study explores the role of Christian churches in the cross-cultural adaptation of international students. Through interviews and on-site surveys of Chinese international students at Hanyang International Church, it reveals the motives for students to contact the church, the content and functions of church activities, the students' feedback and experiences, and the impact of participating in church activities. The findings show that the church provides a comprehensive platform for language learning, cultural exchange, social interaction, and psychological support, effectively helping students adapt to a foreign culture, alleviate psychological pressure, and significantly improve the quality of life.

The sample selection focuses on Chinese international students in Korea, especially those actively participating in the activities of Hanyang International Church. The sample size of 10 students aims to balance the richness of data with the depth of research. The research method uses qualitative approaches, conducting in-depth interviews with 10 student informants and combining on-site observations to collect data. Data analysis is carried out through data simplification, conceptualization, categorization, and description to ensure the reliability and validity of the results. Although convenience sampling is not as representative as random sampling, it is common and practical in qualitative research, especially for specific groups. The diversity of the sample is reflected in multiple dimensions: gender, academic background, faith status, time in Korea, Korean language proficiency, and participation in church activities. In addition, the students have a wide range of academic disciplines, including science, engineering, humanities, and business, to increase the diversity of research perspectives. At the same time, considering the differences in religious beliefs, the sample also includes students with Buddhist and Taoist backgrounds, as well as those without religious beliefs, to observe their different experiences and changes after participating in Christian activities.

Through interviews and analysis with Chinese international students at Hanyang International Church, it is concluded that the main reasons for students to come to the church cover five aspects: language learning, social needs, practical life support, cultural exchange experience, and psychological and emotional support. These reasons reflect the multi-level needs of students in a foreign cultural environment and also show the unique role of the church in meeting these needs. For male students, the Korean language classes provided by the church help them significantly improve their language abilities and enhance their confidence in daily communication. At the same time, church activities create opportunities for them to make friends and alleviate loneliness in a foreign country. In addition, the free or low-cost meals provided by the church alleviate the pressure of living costs to a certain extent and become an opportunity for some male students to first contact the church. In comparison, female students are more inclined to participate in cultural exchange activities through the church, such as Sino-Korean festival celebrations (making dumplings, mooncakes), to enrich their spare time; they also alleviate academic and life pressure through worship and prayer and obtain psychological support and inner peace. It is worth noting that these reasons are not limited to one gender but are mentioned by both male and female students. However, the focus of different genders is somewhat different. Male students often mention economic support, while female students pay more attention to cultural exchange and psychological support.

Hanyang International Church provides comprehensive support and help to international students through a variety of activities. In terms of language learning, Korean language classes and bilingual Bible explanations not only improve the language abilities of international students but also help them better understand Korean culture and religious doctrines. In terms of cultural exchange and practice, activities such as making dumplings and mooncakes promote interaction and

understanding between international students and local culture, enhancing their cultural adaptability. In terms of worship and religious activities, bilingual worship, Bible study, and prayer provide spiritual comfort to international students, helping them alleviate academic and life pressure and gain psychological peace and support. In terms of community activities and social interaction, activities such as group meals, sharing sessions, and music groups help international students make new friends, expand their social networks, and enhance their sense of belonging. In terms of practical life support, the free meals, life advice, and study help provided by the church effectively alleviate the economic and living pressure of international students.

The feedback from international students indicates that participating in church activities has had a positive impact on various aspects of their lives. In terms of language ability, their Korean oral expression ability has significantly improved through Korean courses and communication practice. In terms of psychology and spirit, religious activities have helped international students alleviate academic and life pressure, enhance their confidence and positive attitude in facing difficulties. In terms of cultural adaptation, participating in Korean culture-related activities has gradually helped international students understand and accept local living habits and cultural norms. In terms of social networks, the new friends made through the church have formed a supportive social network that provides emotional and practical help. In terms of quality of life, free meals and life assistance have alleviated economic pressure and enriched spare time.

Participating in church activities has had different impacts on international students with different religious faith backgrounds. For students who did not have faith before, there have been significant improvements in language ability, psychological state, social and sense of belonging, cultural understanding and adaptability, and quality of life. For students who had faith before, their faith has deepened, and their self-awareness and self-discipline have been enhanced, promoting personal growth and development. It is worth noting that the students who came to the church did not all have a Christian faith before; there were also students with Buddhist and Taoist backgrounds. Participating in church activities not only helped them better understand and integrate into Christian culture but also prompted them to have new understandings and thoughts about other religions. Some students showed a phenomenon of "selective belief" in the process of contacting Christianity. They did not completely accept the doctrines of a certain religion in terms of faith but drew theories and concepts from various religions. For example, one student's family were Buddhists, so he accepted the concept of reincarnation. Therefore, after learning Christianity, he did not accept the concept of going to heaven after death. However, he believed in the existence of God and regarded God as a kind of Buddha in Buddhism. Although he did not agree with the doctrine that there is only one God in the world, he still thought that worship activities had certain significance and functions, and his worship could be heard by God. This phenomenon reflects the flexibility and openness of students in religious faith. They have formed a personalized faith system in cross-religious exchanges, thereby better reconciling the differences between different religions and finding a path that conforms to their cognition and faith.

The cultural adaptation of international students can be seen as a two-way process, in which both international students and local society adopt new characteristics in interaction. As defined by Bloch, integration is the process by which individuals and immigrant groups are incorporated into various social domains and parts of the new host society (Bloch, 2002: 80–82). In the activities of Hanyang International Church, international students have not only improved their language abilities but also gradually adapted to the cultural and social norms of Korea through participating in worship, Korean language classes, and cultural activities. This two-way cultural adaptation process has not only helped international students alleviate psychological pressure but also enhanced their identification with the new culture.

In conclusion, this study highlights the unique role of Christian churches as a platform for cross-cultural exchange in the adaptation of international students to a foreign life, indicating that the emotional support, social interaction, and practical help provided by religious activities in the process of cultural adaptation are crucial. The research results provide valuable empirical data for

understanding the role of religious organizations in the cultural adaptation and social support of international students and offer references for related practices and policy-making. Future research can further explore the differential roles of different religious organizations in cross-cultural adaptation and the interactive mechanisms of religion and cultural exchange in a broader social context. This will help to better understand the role of religion in the cross-cultural adaptation of international students and provide more effective support and resources for them.

Appendix

Interview Content

1. Initial Contact with the Church:

How did you first learn about and come into contact with Hanyang International Church?
What was your initial impression of the church? What attracted you to continue participating in its activities?

2. Experience in Church Activities:

Which church activities have you participated in? Have these activities met your needs in terms of language, study, and daily life?
During your participation in church activities, have you felt a reduction in loneliness and anxiety? What support has the church provided to help you cope with these psychological pressures?
In your interactions with people of different cultural backgrounds in the church, have you encountered any cultural conflicts or particularly memorable communication experiences?

3. Language Learning:

Has the church helped with your Korean language learning? If so, in what specific ways?
How was your experience in the Korean language class? Did you find it practically helpful?

4. Religious Faith and Cultural Adaptation:

Have you been exposed to the content of the Christian faith through church activities? What impact has this content had on your life or values?
Have you made new friends or established new social relationships through the church? How have these relationships helped with your life adaptation?
Do you think church activities have helped you better understand and integrate into Korean culture? If so, please give specific examples of how they have been helpful.

5. Overall Evaluation and Suggestions:

How would you overall evaluate the church's help in your life adaptation and cultural integration?
In which aspects do you think the church activities still have room for improvement?

Conclusion

This study explores the role of Christian churches in the cross-cultural adaptation of international students. Through interviews and on-site surveys of Chinese international students at Hanyang International Church, it reveals the motives for students to contact the church, the content and functions of church activities, the students' feedback and experiences, and the impact of participating in church activities. The findings show that the church provides a comprehensive platform for language learning, cultural exchange, social interaction, and psychological support, effectively helping students adapt to a foreign culture, alleviate psychological pressure, and significantly improve the quality of life. Future research can further explore the differential roles of different religious organizations in cross-cultural adaptation and the interactive mechanisms of religion and cultural exchange in a broader social context.

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Conflict of Interest

The authors declare no conflict of interest.

References

- [1] Baumann, G. (2002). Religion and Ethnicity. London: Routledge.
- [2] Bloch, A. (2002). Migration and the Boundaries of the Welfare State. Cambridge: Cambridge University Press.
- [3] Irmi, Irmi Yunika, et al. "Adaptation of Student Socio-Religious Rituals and Practices during a Pandemic." *Journal of Information Systems and Management (JISMA)* 1.5 (2022): 53-60.
- [4] Lachmann, Peter J. "Religion--An evolutionary adaptation." *FASEB journal* 24.5 (2010).
- [5] Newson, L., & Richerson, P. J. (2014). Religion: The dynamics of cultural adaptations. In F. Watts & L. Turner (Eds.), *Evolution, Religion and Cognition: Critical and constructive essays* (pp. 11-30). Oxford: Oxford University Press.
- [6] 손신 . (2014). 결혼이주여성의 사회문화적 적응과 종교의 역할 -다문화선교를 중심으로 . 복음 과 선교 , 28(0), 191-234.
- [7] Warner, R. S. (1998). Religion in a Global Civil Society. Oxford: Oxford University Press.
- [8] 조발그니 . (2011). 종교공동체의 사회적지지 역할과 영국 , 프랑스 , 독일 유학생의 적응 . 종교연구 , 64, 247-280.

The Financial Dilemma and Industry Warning Behind the JIYUE Automobile Bankruptcy Incident

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Abstract

The once highly anticipated JIYUE Automobile declared bankruptcy in 2024 due to a chain reaction caused by Baidu's withdrawal of investment. This article aims to delve into the bankruptcy of JIYUE Automobile, revealing the financial difficulties behind it, and providing a warning for the new energy vehicle industry. In its development process, JIYUE Automobile faced difficulties with a tight capital chain, blocked financing leading to an expanding funding gap, high operating costs, a severe imbalance between investment and output in research and development, production, and marketing, and a continuously rising debt-to-asset ratio, raising concerns about its ability to repay debts. At the financial management level, budget control failed, the efficiency of capital use was low, and cost accounting was imprecise, with these issues gradually emerging. This event serves as a wake-up call for the new energy vehicle industry, indicating that companies must pay attention to financial risk management, build a comprehensive capital early warning mechanism, and plan capital use reasonably; at the same time, strengthen financial budget management, enhance the scientific nature and execution of the budget; and focus on cost optimization to ensure the rationality of input and output, to enhance the company's ability to resist risks in the market, avoid repeating JIYUE Automobile's mistakes, and promote the healthy, stable, and sustainable development of the industry. By analyzing the problems existing in the operation of the enterprise, it was discovered that they exposed numerous financial issues. In terms of identifying financial loopholes, the capital chain was broken, the planned 3 billion in financing did not arrive, and overdue payments to Geely for contract manufacturing caused production lines to halt; financial management was chaotic, with 7 billion in financial debt, insufficient investment in research and development, annual expenses far below the industry average, excessive marketing while neglecting core competitiveness and market research, and a debt-to-asset ratio far exceeding industry standards; internal management also had issues, with layoffs and cuts unable to save the situation, severe delays in employee salaries, social security, and supplier payments. In response to these problems, it is proposed that preventing corporate financial loopholes requires a two-pronged approach. First, establish a comprehensive internal control system, clarify division of responsibilities, authorization and approval systems, and accounting systems; second, strengthen the training of financial management personnel, improving their professional quality and ethical standards; third, implement financial fraud risk assessment, regularly identifying potential risks; at the same time, strengthen internal audit supervision, establish a professional audit team, ensure the independence of audits, use advanced audit technologies, strengthen communication and cooperation in audits, and improve audit systems and processes. From a macro perspective, examining the financial difficulties exposed by the bankruptcy of JIYUE Automobile aims to provide a reference for the new energy vehicle industry to address similar issues and offer insights for other companies in the industry, helping to improve internal deficiencies.

Keywords : Financial loopholes, Bankruptcy risk, JIYUE Automobile

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Introduction

1. Company Profile

JIYUE Automobile is an innovative enterprise focused on the field of intelligent electric vehicles, jointly created by Baidu and Geely Holding Group. As a high-end intelligent automobile robot brand, its predecessor JIYUE was established in March 2021. Both JIYUE and JIYUE originate from the "Automobile Robot Strategic Cooperation Project," representing strategic layouts at

different stages of development. On August 14, 2023, the JIYUE brand was officially launched, and its first model, "JIYUE 01," was officially put on the market on October 27 of the same year. On December 26, 2023, JIYUE announced that its second mass-produced model, "JIYUE 07," was officially named. This model is positioned as a C-class pure electric AI driving sedan and is expected to be launched in September 2024. On March 8, 2024, JIYUE received the first L3-level autonomous driving test license issued by China Optics Valley, allowing conditional autonomous driving road tests in designated areas. JIYUE has established charging service partnerships with partners such as NIO Energy and TELD New Energy Chain Smart Electricity, and as of July 1, 2024, the JIYUE charging network has cumulatively connected to more than 500,000 third-party DC charging piles, covering more than 350 cities nationwide.

At the business level, JIYUE Automobile focuses on the research and development, production, and sales of intelligent electric vehicles, integrating advanced artificial intelligence, autonomous driving, and other cutting-edge technologies to create models with highly intelligent interactive experiences, aiming to provide consumers with high-quality products that are both technologically advanced and convenient for travel. From the perspective of development history, since its establishment, JIYUE Automobile has actively laid out and continuously invested substantial resources in technological research and product optimization, with the goal of securing a place in the fiercely competitive new energy vehicle market. The company has cooperated with numerous technology and automotive industry chain upstream and downstream enterprises, integrating advantageous resources to ensure the smooth progress of each link from vehicle design to mass production.

2.Event summary

On December 11, 2024, JIYUE Automobile Company was suddenly hit by a scandal of "multiple departments being dissolved on the spot," which attracted widespread attention. The company, which was jointly supported by Baidu and Geely and established in 2021, aimed to compete with Tesla in the field of new energy intelligent vehicles. At its inception, the industry had high hopes for it. However, the company recently encountered a major crisis. The CEO of JIYUE Automobile, Xia Yiping, announced through a video conference that the company would enter the "Entrepreneurship 2.0" phase and pointed out that the company was facing a shortage of cash flow. Subsequently, the management notified employees of the dissolution. Early on the 12th, many employees gathered at the company's headquarters, demanding the payment of social insurance, medical insurance, housing provident fund, December's salary, and severance pay, among other things. The deep-seated reason for the broken capital chain is that Baidu's auditing team, dispatched in September, discovered a financial gap of 7 billion yuan in the company, leading Baidu to decide to stop further investment of 3 billion yuan. At the same time, Geely, due to issues such as overdue subcontracting fees, suspended its subcontracting services and explicitly stated that Geely only supports Baidu's attempts in the car-making field, while JIYUE Automobile is not its core business. After the capital chain broke, it quickly "shut down production lines." Faced with increasing pressure, JIYUE Automobile has announced its dissolution and is currently dealing with employee compensation and supplier debt issues. Despite this, Baidu and Geely have not yet reached a consensus on related issues, leaving the problems unresolved, and consumers are also concerned about the continuity of after-sales service.

Purpose of the report

1.Analyze the financial distress behind the bankruptcy of JIYUE Automobile

The financial distress leading to the bankruptcy of JIYUE Company was mainly caused by the following factors: the breakage of the capital chain. Baidu, which had planned to invest 3 billion, paused its capital injection after its audit team discovered financial issues; at the same time, Geely terminated the manufacturing contract due to unpaid subcontracting fees, resulting in a complete breakage of JIYUE's capital chain. Massive losses, since the launch of its products, have exceeded

10 billion, with an average loss of about 50,000 yuan per vehicle sold, an extremely unreasonable cost structure, high procurement costs for key components, and a low-price marketing strategy that further weakened its profitability. There is a 7 billion financial hole, unclear capital flows, and the Chief Financial Officer is missing, triggering fierce disputes between shareholders and management. Chaotic fund management, company executives are accused of embezzlement, such as the CEO's arbitrary designation of suppliers and approval of high costs, leading to ineffective use and loss of funds. Huge debt repayment pressure, according to incomplete statistics, JIYUE Automobile owes suppliers nearly 2 billion, and there are also unpaid employee wages, social security payments, etc., facing numerous collection and litigation risks.

2. Industry warnings and lessons learned

The failure of JIYUE is undoubtedly a severe blow to China's emerging automakers, revealing a deeper warning to the entire industry. As the new energy vehicle market enters a stage of deep adjustment, the key factors determining the success or failure of automakers have shifted from the narrative ability of capital operations to whether products can create market value. The collapse of JIYUE, as one of many cases in the internet industry, reveals several potential black swan events. Baidu and Geely failed to fulfill their 3 billion RMB financing commitment, leading to a break in the capital chain, which in turn triggered a series of chain reactions, including tax penalties, bank credit tightening, supplier run, and corporate scandals, ultimately leaving JIYUE with no way to recover. For e-commerce business owners, the collapse of JIYUE reminds us of how to effectively manage risks, especially tax compliance management, to ensure the sustainable development of the business.

3. The importance of analyzing financial vulnerabilities for identification and prevention

The core objective of internal control in corporate financial accounting is to ensure the security of corporate assets, the compliance of business operations, and the integrity and authenticity of financial reporting information. This, in turn, promotes the continuous improvement of business outcomes and efficiency, supporting the sustainable development of the enterprise. If financial risks cannot be detected in a timely manner, phenomena such as misappropriation of funds and embezzlement may proliferate unchecked. For instance, some employees might exploit loopholes in the financial reimbursement review process to defraud funds by over-reporting expenses. An effective risk identification mechanism can precisely detect such potential risks, preventing the loss of funds and ensuring that the enterprise has sufficient capital to maintain daily operations and invest in projects, thereby securing the stability of the capital chain. Moreover, the existence of financial risks can lead to inaccurate cost accounting, such as unreasonable expense allocation and distorted cost data, making it difficult for the enterprise to accurately grasp its true profit situation, and thus making it challenging to formulate reasonable pricing strategies. By identifying and improving these risk points, enterprises can optimize their cost structure, clarify profit margins, and thereby enhance the profitability of their products, gaining a more advantageous position in the market competition.

The development history of Extreme Automotive Company

1. Outline the key time points and landmark events leading to the bankruptcy of JIYUE

In March 2021, JIYUE Automobile was officially established. The company was co-founded by Baidu and Geely Holding Group and successfully raised an initial \$300 million in funding. By January 2022, JIYUE Automobile had completed a Series A funding round of nearly \$400 million. In August 2023, Baidu and Geely jointly established Hangzhou JIYUE Yue Automobile Technology Co., Ltd., and Jidu Automobile was renamed to the JIYUE brand. In October 2023, the JIYUE 01 was officially launched to the market. However, its sales volume over the two months following its launch was only 3,000 units, significantly lower than the new products launched by BYD and Tesla during the same period. In August 2024, after an audit, Baidu decided to terminate

its investment in JIYUE, a move that directly led to financial strain on JIYUE and triggered a series of events in December, including the suspension of insurance, salaries, and employee rights protection. In October 2024, Baidu dispatched a financial team to conduct an in-depth investigation of JIYUE Company and discovered a financial gap of up to 7 billion yuan, leading to the decision to cease further investment. By December 11, 2024, Xia Yiping, the CEO of JIYUE Automobile, held an internal meeting with all staff, announcing that the company was entering its 2.0 phase of entrepreneurship. In reality, the company's production and sales activities had already ceased, and a restructuring plan including layoffs was also announced. Immediately on December 12, 2024, Baidu and Geely urgently transferred funds to JIYUE Automobile, resolving the issue of social insurance payments for November. On December 13, 2024, Baidu and Geely jointly issued a statement, promising to address issues related to employee social insurance payments, post-employee settlements, and ensuring the normal use of user vehicles, after-sales service, and maintenance and repair services.

2. Its approximate financial situation at the time of bankruptcy

At the time of JIYUE Automobile Company's bankruptcy, its financial situation showed severe distress. According to the core financial data for the third quarter of 2024, the company's total assets amounted to 32.7 billion yuan, while its total liabilities reached as high as 41.9 billion yuan, with a debt ratio of 128%, the highest among domestic new energy vehicle manufacturers. In terms of cash reserves, the company only had 8.3 billion yuan, and signs of a broken capital chain had already become apparent. Additionally, the adjusted net loss for the third quarter of 2024 reached 1.1 billion yuan, with continuous losses leading to a depletion of funds. The planned 3 billion yuan financing for the second half of 2024 failed to materialize, and Baidu discovered a financial hole of 7 billion yuan during due diligence, leading to the decision to withdraw investment. JIYUE's subcontracting fees were also in arrears due to a lack of shareholder support, causing a complete breakdown of the capital chain. Furthermore, the company defaulted on employee social security fees for November and December, as well as December's wages, and owed suppliers nearly 2 billion yuan, resulting in employees collectively blocking the company to demand payment of wages and suppliers jointly taking legal action to protect their rights. Analysis of the debt ratio of 128%: It may be that the upfront R & D investment was too high. For example, a large amount of capital was invested in intelligent driving, new energy technologies, etc., but these investments failed to translate into actual economic benefits in the short term. The marketing expenses were excessive. In order to promote the brand and products, JiYue spent a huge amount on advertising, promotions, public relations, etc., but the sales volume did not meet expectations, resulting in an imbalance between input and output. During the production and operation process, JiYue may have faced problems such as poor management and low efficiency, leading to increased costs and reduced profits, thus affecting the company's debt-paying ability. The long-term negative net cash flow indicates that the cash inflows generated from the company's operating, investing, and financing activities are insufficient to cover the cash outflows. As a result, the enterprise has to rely on external financing or draw on its cash reserves to maintain operations. Persistent negative cash flow tightens the company's capital chain. Once the financing channels are blocked or the cash reserves are exhausted, the enterprise will face the risk of a broken capital chain. This may in turn lead to production stagnation, failure to deliver products on time, and default on payments to suppliers, severely affecting the normal operation and development of the enterprise.

Analysis of Bankruptcy Causes

1. Internal management issues

The internal management issues of JIYUE Company's bankruptcy are mainly reflected in the following aspects: Firstly, the chaotic decision-making mechanism leads to arbitrary high-level decisions, lacking scientific argumentation and long-term planning, blindly expanding scale and investing in low-value projects, resulting in resource waste and increased financial pressure.

Secondly, poor collaboration between departments, with the Baidu technology team and the Geely manufacturing team having inconsistent philosophies, leads to high internal communication and coordination costs, which in turn affects the efficiency and quality of product research and development and production. Lastly, the lack of a supervision mechanism leads to frequent corruption, such as the CEO being accused of forcibly recommending high-priced suppliers and related parties making irregular reimbursements, causing financial management to be out of control and creating significant financial loopholes.

2. Cost control loopholes

During the bankruptcy event of Extreme Peak Corporation, several issues were exposed in cost control. Firstly, in the procurement process, the company's Chief Executive Officer (CEO) enforced the use of expensive suppliers, ignoring the cost-benefit ratio, which resulted in high procurement costs for key components, thereby compressing profit margins. Secondly, in terms of human resource management, the company blindly expanded its size, with the number of employees surging from 3,000 to 5,000, leading to a significant increase in labor costs. However, this expansion did not translate into corresponding output and benefits. Lastly, in terms of project investment, the company invested in too many low-value projects, causing the dispersion and waste of funds, failing to concentrate investments in key areas that could enhance core competitiveness and generate revenue, thus exacerbating the company's financial burden.

3. Financial Risk Management Vulnerabilities

In the case of JIYUE Company's bankruptcy, several deficiencies in financial risk management were exposed. First, there was a significant lack of risk awareness among the management team, with an over-reliance on shareholder support and insufficient recognition of the risks associated with cash shortages. Against the backdrop of a decline in shareholder investment willingness, the company continued to expand recklessly, ignoring potential financial risks. Second, cost control was poor, with the first model of vehicles performing poorly in sales, resulting in a loss of nearly 100,000 yuan for each vehicle sold. Moreover, Failure to adopt CFO's cost-control measures, leading to a severe imbalance between costs and revenues, and low profitability. In terms of financial systems, the authorization and approval processes were overly simplified, resulting in frequent payment requests without proper process approval, and large sums of money being spent without strict control, which could easily lead to financial loss. Finally, in terms of the supervision mechanism, there was a lack of third-party audit supervision, and internal financial management was out of control, with financial risks being ignored and concealed, making it impossible to detect and correct financial issues in a timely manner.

As of now, JIYUE Company has accumulated a total debt of 7 billion yuan, with the specific debt distribution as follows: 900 million yuan owed to Baidu, 2.6 billion yuan owed to Geely, 1.1 billion yuan in bank loan debts, and the remaining debts, including those to suppliers and other creditors, total 2.4 billion yuan. JIYUE Company's sources of funding are mainly divided into two categories: one is the operating revenue obtained through car sales; the other is funds obtained through financing activities, including capital contributions from shareholders and bank loans.

The asset condition of JIYUE Company is concerning, specifically manifesting in three aspects: Firstly, its debt-to-asset ratio is significantly high. As of the third quarter of 2024, the company's total assets amount to 32.7 billion yuan, while the total liabilities are as high as 41.9 billion yuan, with a debt ratio climbing to 128%, far exceeding the industry average. Secondly, there is an inadequate cash reserve, standing at only 8.3 billion yuan, and signs of a broken cash flow chain, evidenced by the inability to pay suppliers, employee salaries, and social security on time.

Financial Data Analysis Identification Method

1. Identify financial vulnerabilities by analyzing key financial indicators

Debt-to-asset ratio: If this indicator is significantly higher than 70%, it suggests that the company has an excessively high level of debt and faces enormous pressure to repay, indicating a potential risk of a break in the capital chain, reflecting the irrationality of the financial structure.

Current ratio: Ideally, this ratio should be close to 2. If the ratio is low, it indicates that current assets are not sufficient to cover current liabilities, meaning the company has a weak ability to pay off debts in the short term, and there may be issues with cash turnover.

Gross Margin: If this indicator continues to decline, it indicates that there are issues with cost control for products or services, profit margins are being squeezed, and it may reveal deficiencies in cost management.

Net Profit Margin: If it remains at a low level for a long time or even becomes negative, this reflects that the overall profitability of the company is poor, and there may be issues such as excessively high operating expenses or improper pricing strategies.

Accounts receivable turnover rate: If the turnover is too slow, it means that the collection of credit sales is difficult, the efficiency of capital recovery is low, which can easily lead to capital congestion and bad debt risk, revealing the inadequacy of sales credit management.

Inventory turnover rate: A low indicator means that inventory is accumulated, occupying more capital, which may point to unreasonable procurement plans or poor sales, indicating issues in operational management.

Net cash flow from operating activities: If this indicator is persistently negative, it suggests that the cash flow generated by the company's operations is not sufficient to support its operations, relying on external financing, reflecting deficiencies in the business model or cash management.

Free cash flow: If this indicator is insufficient, the company will struggle to support continuous expansion and debt repayment needs, indicating problems with financial planning and usage.

2. How to effectively identify using financial ratio analysis, trend analysis, and other methods?

Financial ratio analysis, as a key tool for evaluating a company's financial condition, encompasses a comprehensive measure of the company's debt-paying ability, profitability, and operational efficiency. Specifically, the assessment of debt-paying ability involves indicators such as the debt-to-asset ratio and the current ratio; the evaluation of profitability includes gross margin and net profit margin; and the analysis of operational efficiency focuses on metrics like accounts receivable turnover and inventory turnover. By comparing these ratios with industry standards or the company's historical data, it is possible to identify abnormal changes in the ratios, thereby revealing potential financial risks.

Trend analysis focuses on the dynamic changes of financial indicators over consecutive periods. If key financial indicators, such as a continuous decline in gross profit margin or a persistent decrease in net operating cash flow, may indicate potential financial issues for the company, which requires a more in-depth analysis.

Internal Audit Supervision Identification Method

1. The important role of internal audit in identifying vulnerabilities in reviewing financial processes and the implementation of financial systems

The role of internal audit is to thoroughly examine the compliance of financial processes, revealing issues such as missing approval steps or reversed processes. It can test the implementation of financial systems, identify deficiencies where systems are not properly enforced or there is deviation in execution, issue timely risk warnings, and promote the optimization of processes and the strengthening of system enforcement within the enterprise. This ensures the standardization and orderliness of financial activities, thereby preventing financial risks.

Key areas of focus and specific operational procedures for internal audits to identify financial issues

This study focuses on examining the implementation of financial systems, the accuracy of financial processing, the effectiveness of fund management, and the efficiency of internal control mechanisms.

In terms of financial systems, the research emphasis is on assessing whether financial regulations are properly executed and whether the approval processes follow established requirements.

Regarding accounting processing, the study primarily verifies the compliance and accuracy of account records, accounting entries, and the preparation of financial statements.

In terms of fund management, the study focuses on key factors such as the flow of funds, the efficiency of their use, and the security of the funds.

The assessment of the effectiveness of internal controls aims to investigate whether the control measures at each critical point have sufficient risk prevention capabilities.

The implementation steps of this study include: developing an audit plan, clarifying the audit objectives, scope, timing, and collecting necessary financial statements, vouchers, system documents, and other related materials. During the audit implementation phase, methods such as inspection, inquiry, and analysis are used to review key contents. Problems discovered during the audit are recorded, and after the audit, a report is issued summarizing the issues, proposing improvement suggestions, and feeding back the results to the relevant departments.

Preventive measures for corporate financial vulnerabilities

Improve the cost control system

Build a rigorous cost accounting and monitoring system to ensure the accuracy of cost data and the rationality of expenditures. By optimizing the cost management process, achieve full-chain cost control from the source to the end. Develop detailed cost accounting standards, clarify the cost composition at each link, and establish dedicated positions to monitor. Regularly conduct data verification, compare budgets with actual expenditure amounts, to ensure the authenticity of cost data and the compliance of expenditures. Meanwhile, optimize workflow, the procurement link needs to estimate costs and select suitable suppliers, the production link must strictly control material and labor consumption, the sales link needs to reasonably plan marketing expenses, to ensure that all links work closely together to effectively control costs.

Strengthen budget management capabilities

To enhance the accuracy of budget preparation, it is essential to adopt scientific methods, tailor the budget to actual conditions, and strengthen the enforcement of the budget. Establish strict supervision and incentive-punishment mechanisms, standardize the budget adjustment process to ensure its rationality and necessity. Conduct in-depth market research and analyze historical data, using scientific methods for budget preparation comprehensively, based on the actual business situation and development strategy of the enterprise, to improve the precision of budget preparation. By clarifying the responsible entities, implementing real-time monitoring and regular assessments, an effective supervision mechanism is built. Rewards should be given to departments or individuals who strictly adhere to the budget, and corresponding penalties should be imposed for violations of budget regulations, thereby strengthening the enforcement of the budget and standardizing the budget adjustment process to ensure that adjustments are made with sufficient reasons and after necessary approvals, thus ensuring the rationality and necessity of budget adjustments.

Optimize fund management model and establish a comprehensive financial risk management mechanism

Expand funding channels and optimize capital structure planning to reduce capital costs and risks. Enhance the efficiency of capital utilization, achieving comprehensive allocation and precise deployment of funds. Improve the accounts receivable management system, strengthen collection efforts to ensure timely cash inflow. Establish a comprehensive financial risk response framework,

monitor risk indicators in real-time and prepare for timely responses. Develop specific risk response strategies, pre-plan responses to various risks, strengthen training on financial risk management awareness across all staff, and foster a proactive risk management culture.

Conclusion, summary, and recommendations

The JIYUE bankruptcy incident profoundly reveals the importance of financial risk management, serving as a warning to the industry to strictly control budgets and costs, and to strengthen fund management to prevent capital chain breaks due to blind expansion. At the same time, the incident reminds companies to focus on product competitiveness and market adaptability, to avoid the disadvantageous situation of high costs and low sales volume, and to ensure the sustainability of profits. Moreover, improving internal management mechanisms, such as perfecting financial and auditing systems, standardizing operational processes, and strengthening the enforcement of systems, is crucial for ensuring the stable operation of enterprises. The formulation of strategic planning should be given priority to avoid blind expansion and unclear positioning. The lessons from this incident prompt companies to further strengthen financial management and control of capital chains and costs. At the same time, optimizing internal governance structures, clarifying responsibilities, enhancing leadership, focusing on product design and research and development, valuing user experience and quality control, increasing risk prevention awareness, and maintaining the ability to flexibly respond to changes are essential.

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Conflict of Interest

The authors declare no conflict of interest.

References

- [1] Bernstein, S., Colonnelli, E., Giroud, X., & Iverson, B. (2019). Bankruptcy spillovers. *Journal of Financial Economics*, 133(3), 608–633.
- [2] Georgiadis, G., & Mehl, A. (2015). Trilemma, not dilemma: financial globalisation and Monetary policy effectiveness. *Globalization and Monetary Policy Institute Working Paper*, 222.
- [3] Korejo, M. S., Rajamanickam, R., Md. Said, M. H., & Korejo, E. N. (2023). Plea bargain dilemma, financial crime and asset recovery. *Journal of Money Laundering Control*, 26(3), 628–639.
- [4] Kraft, A. G., Vashishtha, R., & Venkatachalam, M. (2018). Frequent financial reporting and managerial myopia. *The Accounting Review*, 93(2), 249–275.
- [5] Le, N., & Ngo, P. T. H. (2022). Intra-industry spillover effects: Evidence from bankruptcy filings. *Journal of Business Finance & Accounting*, 49(7–8), 1113–1144.
- [6] Li, M., & Zhu, C. (2024). The Impact of Accidental Shocks on Asset Prices from the Perspective of Financial Industry Opening. *Theoretical Economics Letters*, 14(4), 1455–1477.
- [7] Sumner, S. B. (2015). The Midas paradox: financial markets, government policy shocks, and the great depression. *Independent institute*.
- [8] Tyers, R., & Bain, I. (2008). American and European financial shocks. *CHINA'S DILEMMA*, 30.
- [9] Zou, M., & Wu, W. (2020). Research on manager's overconfidence and enterprise financial dilemma: a case analysis based on leeco company. 1st Africa-Asia Dialogue Network (AADN) International Conference (AADNIC 2019), 14–19.
- [10] Ingrassia, P. (2011). *Crash Course: The American Automobile Industry's Road to Bankruptcy and Bailout-and Beyond*. Random House Trade Paperbacks.
- [11] Jasinski D, Meredith J, Kirwan K. A comprehensive review of full cost accounting methods and their applicability to the automotive industry[J]. *Journal of Cleaner Production*, 2015, 108: 1123-1139.

- [12] Agus A, Krishnan S K, Kadir S L S A. The structural impact of total quality management on financial performance relative to competitors through customer satisfaction: a study of Malaysian manufacturing companies[J]. Total quality management, 2000, 11(4-6): 808-819.

China and Central Asia: Protection of Foreign Teachers' Rights in Cross-Border Educational Cooperation

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Abstract

As the saying goes, "Education is the foundation of a nation's prosperity." The successful convening of the China-Central Asia Summit heralds deeper cooperation between China and the five Central Asian countries, fostering a closer community of shared destiny. Standing at a new historical juncture, "foreign teachers" serve as vital links in the globalization of education and internationalization of talent. Against the backdrop of the signing of the "Joint Statement on the Establishment of a Comprehensive Strategic Partnership of the New Era" between China and Uzbekistan, this paper focuses on the protection system of foreign teachers' rights in China and Uzbekistan. It analyzes the challenges faced from the perspectives of policy legislation, supervision and management, communication and coordination, proposing legal solutions such as improving the policy legislative system, strengthening rights protection measures, enhancing supervision and evaluation mechanisms, and promoting transnational communication and coordination. These efforts aim to provide robust legal protection for promoting deep cooperation in the education sector between China and Uzbekistan.

Keywords : China; Uzbekistan; Foreign teachers; Rights protection

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Introduction

Education is the foundation of a nation's long-term development. Talent serves as a key factor and crucial link in the development of education, and education provides the essential platform for talent to display abilities, exert influence, contribute, and achieve careers. Economic globalization propels educational globalization, thereby driving the internationalization of talent. Accelerating and expanding the opening up of education to the outside world is a necessity for educational development, national construction, and talent cultivation. The "Promotion of Jointly Building the Belt and Road Initiative in Education" proposed, "Promote the joint construction of the 'Silk Road Economic Belt' and the '21st Century Maritime Silk Road', and provide a great opportunity for promoting large-scale openness, exchanges, and integration in regional education." The successful convening of the China-Central Asia Summit inevitably signifies China's deepened cooperation with the five Central Asian countries, fostering a closer community of shared destiny. Standing at a new historical starting point, "foreign teachers", as the nexus of educational globalization and talent internationalization, undoubtedly play a crucial role.

In recent years, countries along the Belt and Road have come together to enhance understanding, expand openness, strengthen cooperation, learn from each other, seek common interests, face common destiny, shoulder common responsibilities, and build a Belt and Road educational community with equality, inclusiveness, mutual benefit, and vitality, promoting regional education development. Therefore, there is an increasing emphasis on the internationalization of the teaching staff, with the introduction of foreign teachers being a significant manifestation of this trend (Chengwu Lou, Wanbing Shi, 2005). With the continuous expansion of the scale of foreign teachers in universities, the issue of protecting their rights becomes increasingly prominent, becoming a significant factor constraining the internationalization of university faculty and the quality of talent cultivation. There is a wealth of literature on the management of foreign teachers in universities, covering various aspects such as recruitment, teaching, and daily life. However, existing research remains insufficiently comprehensive, with relatively few systematic discussions on the system of protecting the rights of foreign teachers. Due to the numerous countries along the Belt and Road, it is impractical to elaborate on each one. Therefore, this paper takes advantage of the historical moment of China and Uzbekistan signing the "Joint Statement on the Establishment of a Comprehensive Strategic Partnership of the New Era" on January 24, 2024, to briefly outline the system of protecting the rights of foreign teachers in China and Uzbekistan. It discusses the operational challenges of the system for protecting the rights of foreign teachers, proposes multi-perspective legal solutions to address these challenges, provides robust legal protection to promote deep

cooperation in the field of education between China and Uzbekistan, and holds profound significance for promoting the development and innovation of education globalization (Zolfaghari, A. et al., 2009).

Overview of the System for Protecting the Rights of Foreign Teachers in China and Uzbekistan

The Chinese Logic Behind the System for Protecting the Rights of Foreign Teachers

The Evolution of Policy and Legislation

No detail is too small in foreign affairs. In regard to the introduction of foreign teachers, Comrade Deng Xiaoping pointed out early in the “Decision on Introducing Foreign Intelligence to Facilitate the Four Modernizations” that it is essential to open up channels widely and use various methods to introduce foreign intelligence as an important strategic policy to accelerate modernization (Xiaoping Deng, 2019). To meet the demands of hiring foreign teachers in universities after the reform and opening-up, the State Council successively issued the “Provisional Regulations on the Employment of Foreign Cultural and Educational Experts”, the “Provisions on the Employment of Foreign Cultural and Educational Experts and Foreign Teachers in Higher Education Institutions”, and the “Administrative Measures for Hiring Foreign Professionals in Schools and Other Educational Institutions” (Yuanyuan Zhang, 2009). As entered the 21st century, China’s economic strength continued to grow, international exchanges became increasingly frequent, the internationalization level of universities kept rising, the number of foreign teachers in universities continued to increase, and the country, in response to the trends of the times, timely adjusted the system for safeguarding the rights of foreign teachers. It successively issued and implemented notifications such as the “Notice on Providing Entry and Residence Convenience Regulations for Foreign High-level Talents and Investors”, the “Opinions on Improving the Medical Insurance System for Foreign Experts Working in China”, and the “Salary Reference Lines for Ordinary Foreign Cultural and Educational Experts and Professionals Working in China” (Trial) (Shi Shan, 2006). In 2019, the National Administration of Foreign Experts Affairs, responsible for foreign intelligence, was placed under the management of the Ministry of Science and Technology and renamed “Foreign Expert Service Bureau”. In order to improve the legal system for safeguarding the rights of foreign teachers and strengthen the management of foreign teachers, the Ministry of Education issued the “Regulations on the Appointment and Management of Foreign Teachers (Draft for Soliciting Opinions)” on July 21, 2020. Unfortunately, to this day, the regulation has not been formally promulgated.

Table 1

Summary of Important Policies and Legislation on the Protection of the Rights and Interests of Foreign Teachers in China (Partial)

Name of policy/legislation	Date of enactment	Legal effect
Regulations on the Employment of Foreign Cultural and Educational Experts and Foreign Teachers in Higher Education Institutions	1991.8.10	Effective
Administrative Measures for the Approval of Foreigners’ Permanent Residence in China	2004.8.15	Effective
Teachers’ Law of the People’s Republic of China	2009.8.27	Effective
Provisional Measures for Participation in Social Insurance by Foreigners Employed in China	2011.9.6	Effective
Circular on Issues Relating to the Participation in Social Insurance by Foreigners Employed in the Territory of China	2011.11.2	Effective
Law of the People’s Republic of China on Exit-Entry Administration	2012.6.30	Effective
Labor Contract Law of the People’s Republic of China	2012.12.28	Effective
Regulations on the Entry and Exit of Aliens	2013.7.12	Effective
Issuance of the Procedures for Handling Foreigners Entering the Country for Short-Term Work Assignments (Trial)	2014.11.6	Effective
Regulations on the Administration of Foreigners’ Employment in China	2017.3.13	Effective
Notice on the Full Implementation of the Work Permit System for Foreigners Coming to China	2017.3.28	Effective

Circular of the State Administration of Foreign Experts on the Issuance of Service Guidelines for Foreigners' Permission to Work in China	2017.3.29	Effective
Measures for the Implementation of the Visa System for Foreign Talents	2017.11.28	Effective
Labor Law of the People's Republic of China	2018.12.29	Effective
Regulations on the Appointment and Management of Foreign Teachers (Draft for Soliciting Opinions)	2020.7.21	Not yet effective
Education Law of the People's Republic of China	2021.4.29	Effective

Measures to protect the rights and interests of foreign teachers

As the “Regulations on the Appointment and Management of Foreign Teachers” (“Regulations”) is still in the draft stage for soliciting opinions, the legal basis for the current system of safeguarding the rights of foreign teachers in Chinese universities is still the “Provisions on the Employment of Foreign Cultural and Educational Experts and Foreign Teachers in Higher Education Institutions” (“Provisions”) promulgated by the former State Education Commission in 1991. Although the “Provisions” still serve as the core of the system for safeguarding the rights of foreign teachers in Chinese universities, detailing the principles, conditions, approval procedures, and management of the employment of foreign teachers in Chinese universities, as of today, the “Provisions” have been implemented for over 30 years and are clearly not adapted to the new situations, trends, and circumstances of safeguarding the rights of foreign teachers in China in the new era (Yong Xie, Nianning Chen, 2013). Therefore, based on laws and regulations such as the “Education Law”, “Teachers Law”, “Exit and Entry Administration Law”, “Labor Law”, and “Regulations on the Employment of Foreigners in China”, the paper focuses on analyzing the system of safeguarding the rights of foreign teachers with Chinese characteristics constructed in the future based on the “Regulations”:

Firstly, the “Regulations” redefines the concept of “foreign teacher”, referring to foreign individuals appointed by educational institutions, holding work permits and work-related residence permits for foreigners, and engaging in educational and teaching activities within China; “educational institutions” include universities. The appointment of foreign teachers sets “quantitative+qualitative” conditions, with quantitative requirements including holding a bachelor's degree or higher, having more than 2 years of teaching experience in relevant disciplines at educational institutions, and obtaining corresponding level certificates through the Chinese language proficiency test, while qualitative requirements include physical and mental health, good conduct, no criminal records, no history of infectious diseases or mental disorders, etc.

Secondly, the “Regulations” emphasize the management responsibilities of educational institutions. On one hand, regarding relevant permits, educational institutions should apply for the work permits for foreign teachers to come to China from the provincial government's science and technology administrative department or its authorized administrative department; assist foreign teachers in applying for the Z visa from the Chinese diplomatic mission abroad according to relevant procedures and regulations; assist foreign teachers in applying for work-related residence permits from local public security organs at or above the county level. On the other hand, in terms of service management, educational institutions should sign written contracts with foreign teachers, detailing matters such as job tasks, work locations, job responsibilities, and tenure; provide targeted pre-service and post-service training for foreign teachers based on their cultural backgrounds and job characteristics; refrain from implementing short-term intensive teaching through obviously unreasonable methods such as scheduling courses densely; establish a sound assessment system, strengthen the normative and supervisory aspects of the professional ethics and conduct of foreign teachers, and ensure and support foreign teachers in engaging in scientific research, academic exchange, and other activities.

Thirdly, the “Regulations” explicitly propose that the education administrative department of the State Council should establish and manage a “national comprehensive information service platform for foreign teachers”, and educational institutions should upload copies or electronic texts of the contract text cover page, the page specifying the term of employment and both parties' signature pages, work permits for foreign teachers coming to China, residence permits, and other materials to the platform. Education administrative departments, educational institutions, and foreign teachers can log in to the platform to query relevant information.

Interpretation of Protection of the Rights and Interests of Foreign Teachers in Uzbekistan

In January 2022, President Mirziyoyev, who was re-elected as the President of Uzbekistan, formulated the “New Uzbekistan Development Strategy 2022-2026”, proposing the concept of the “Third Renaissance”, with the development of human capital listed as one of the most important tasks, positioning 2023 as the “Year of Caring and Quality Education” in Uzbekistan.

Since 2017, Uzbekistan's high education has achieved rapid development, with the number of universities reaching 186, nearly 2.5 times increase. Among them, 31 universities are branches or subsidiary institutions of world-renowned universities, striving to propel Uzbekistan into the ranks of countries with above-average income levels in the world

(Ziguo Li, 2023). With the deepening globalization of education in Uzbekistan, foreign teachers are increasingly occupying important positions in the Uzbekistan education system, and the system for safeguarding the rights and interests of foreign teachers is gradually receiving attention. The system for safeguarding the rights and interests of foreign teachers in Uzbekistan is mainly composed of the “The Law of Legal Status of Foreigners in Uzbekistan”, the “Labor Law of Uzbekistan”, the “Education Law of Uzbekistan”, the “Law on Employment of Foreign Citizens and Stateless Persons in Uzbekistan”, and the “Procedures for Entry, Exit, Stay, and Transit of Foreign Citizens and Stateless Persons in Uzbekistan” (Sultanov M. M., Dzhumayev M. I., 2020).

The “The Law of Legal Status of Foreigners in Uzbekistan” stipulates the residence, work, life, rights, and obligations of foreign teachers in Uzbekistan. Foreign teachers enjoy the same working conditions as local teachers; universities should provide adequate teaching resources and a good working environment for foreign teachers; specialized visa types should be provided for foreign teachers to simplify entry, residence, and exit procedures; universities are encouraged to provide necessary cultural training and language courses for foreign teachers to help them understand Uzbekistan's history, culture, and education system; foreign legal service agencies should be established to provide foreign teachers with timely legal information and assistance to safeguard their legitimate rights and interests.

The “Labor Law of Uzbekistan” is the core legal document for safeguarding the rights and interests of foreign teachers as laborers, covering aspects such as labor contracts, wages, working hours, rest and leave, and social insurance. Universities must sign written labor contracts with foreign teachers, detailing the rights and obligations of both parties; the salary and benefits of foreign teachers should not be lower than those of local teachers of the same level, and appropriate allowances or bonuses should be provided based on their work performance and teaching experience; universities should assist foreign teachers in solving housing problems and provide necessary living conditions, such as medical insurance and housing subsidies; Uzbekistan has a labor arbitration committee to provide guidance and resolution pathways for foreign teachers in labor disputes.

The “Education Law of Uzbekistan” is the fundamental law regulating the education sector in Uzbekistan, also covering the protection of the rights and interests of foreign teachers. It stipulates the qualifications, certification procedures, and teaching qualifications for foreign teachers engaged in education in Uzbekistan to ensure that they possess the basic qualities and abilities for educational work. It also encourages foreign teachers to participate in higher education reforms and teaching research activities.

The “Law on Employment of Foreign Citizens and Stateless Persons in Uzbekistan” specifically regulates the employment of foreign citizens and stateless persons in Uzbekistan, specifying the conditions, procedures, and requirements for foreign teachers to work in Uzbekistan, including applying for work permits, signing labor contracts, and paying social insurance.

The “Procedures for Entry, Exit, Stay, and Transit of Foreign Citizens and Stateless Persons in Uzbekistan” specifies in detail the documents required for entry, types of visas to apply for, residence periods, and departure precautions for foreign teachers, helping them to enter, reside, and leave Uzbekistan smoothly.

Dilemmas in Protecting the Rights and Interests of Foreign Teachers

Policy-legislative perspective: Inadequate institutional provision

Insufficient institutional supply is reflected in the policy legislative aspect as the imperfection of policy legislation. From the above discussion on the system of protecting the rights and interests of foreign teachers in China and Uzbekistan, it can be seen that although many policies and legislations in both countries involve the protection of the rights and interests of foreign teachers, there is still a lack of specialized and systematic laws regulating the protection of these rights and interests. This contradicts the original intention of promoting the protection of the rights and interests of foreign teachers on the track of the rule of law. Taking China as an example, the “Regulations on the Administration of Employment of Foreigners in China” is still the only regulation governing the employment of foreigners in China, which of course applies to foreign teachers. Apart from the fact that the legal effect of the “Regulations on the Administration of Employment of Foreigners in China” is relatively low, it does not involve defining the identity, industry, profession, and nature of work of foreign teachers. As a result, it is difficult to identify effective methods for safeguarding their rights and interests, which fails to meet the needs of foreign teachers' development in China. Specifically, on the one hand, to ensure that universities hire foreign teachers with qualified qualifications, China's education administrative departments have set clear conditions for the qualifications of foreign teachers, such as a bachelor's degree or above, and more than 2 years of relevant work experience (China Society of Higher Education, Branch of Introducing Foreign Intelligence, 2007). However, education systems vary among countries, especially between China and Uzbekistan. Differences exist in the standards for academic recognition and the system of awarding degree certificates. Therefore, it is necessary to distinguish the qualifications of foreign teachers in different countries' education systems when hiring them. However, many universities in China currently do not have unified, reasonable, and operational standards for hiring foreign teachers, resulting in uneven quality in the hiring of foreign teachers in China. On the other hand, from the perspective of contracts, Article 4 of the “Notice on the Implementation of New Standard Contracts for Foreign Educational Experts” mentions that when employing foreigners who have recommended themselves, the hiring unit should adopt a cautious attitude. If hiring is necessary, a “security deposit” clause may be

added to the contract. However, this clause is inconsistent with Article 9 of the “Labor Contract Law”. According to Article 9 of the “Labor Contract Law”, employers are not allowed to withhold the resident identity cards and other documents of employees or require them to provide guarantees or collect property from employees under any other pretext. In addition, there may be issues with labor contracts, such as incomplete contract content, non-compliant contract signing procedures, and incomplete fulfillment of contract terms.

The vitality of law lies in its implementation. If laws exist but are not enforced or are poorly enforced, resulting in non-compliance, lax enforcement, and impunity for violations, then enacting more laws will be of no avail (Literature Research Office of the Central Committee of the Communist Party of China, 2015). The accompanying issue of insufficient institutional supply is the lack of enforcement capability in policy legislation. This lack of enforcement is particularly evident in the lax implementation of foreign teacher appointment standards. Whether in China or Uzbekistan, the mismatch between the number of foreign teachers and the development needs of universities has led to instances of lax enforcement of appointment standards during the recruitment of foreign teachers (Xin Wang, 2023). Most foreign teachers are recruited by universities after interviews and classroom demonstrations. However, in cases where universities urgently need to address a shortage of qualified foreign teachers, some are hired based solely on simple interviews. This has resulted in negative effects such as low teaching proficiency, weak teaching abilities, and poor teaching effectiveness among foreign teachers (Wanbing Shi, Hui Yang, 2013). In practical terms, the lack of awareness of foreign teacher systems and cultural differences are also important reasons for the inadequate enforcement of policy legislation. When foreign teachers enter China or Uzbekistan to engage in educational work, even if they receive relevant institutional training, many cannot genuinely abide by and respect the relevant systems of China or Uzbekistan due to differences in systems, beliefs, histories, cultures, and personal biases. This poses a risk of complete loss of professional ethics among foreign teachers (Kun Qian, 2022). Furthermore, some universities also have a weak awareness of institutional systems, thereby infringing upon the legitimate rights and interests of foreign teachers.

Supervision and management perspective: unbalanced protection of rights and interests

Protecting rights is key to supervising and managing foreign teachers, and the imbalance in rights protection is inevitably a common issue. Protecting the rights of foreign teachers in universities is a systematic and complex process. A complete cycle of safeguarding the rights of foreign teachers requires information sharing and communication coordination among different departments within universities (Sitong Lai, 2022). Most universities in China and Uzbekistan adopt a “dual-track” management model for safeguarding the rights of foreign teachers, where the appointment of foreign teachers is handled by the foreign affairs department, while day-to-day management is led by the teaching department. In practice, the management of foreign teachers in China and Uzbekistan is highly complex. Typically, the appointment of foreign teachers is handled by the personnel department, visa and residence permits by the foreign affairs department, accommodation and meals by the logistics department, research and teaching by the teaching department, and salary, allowances, and bonuses by the finance department. When communication among these departments is inadequate, it can easily lead to information asymmetry and result in either a vacuum or overlapping of management responsibilities for foreign teachers (Xianying Cheng, Dongbo Fang, 2021). Additionally, safeguarding the rights of foreign teachers requires not only a set of sound and reasonable systems and a group of coordinated and efficient departments but also a team of professional and dedicated management service personnel (Jiayun Zhu, Ning Miao, 2018). Currently, there is a significant shortage of management service personnel for foreign teachers in China and Uzbekistan, such as insufficient staffing, low proficiency in foreign languages, limited communication skills, insufficient political sensitivity, rigid management styles, and uniform management methods.

After being appointed, foreign teachers enter a country with cultural customs, lifestyle habits, language communication, and religious beliefs different from their own. Adequate and appropriate pre-service training is indispensable. It can be said that pre-service training is the “refueling station”, “safe haven”, and “tailor shop” for foreign teachers (Yanhui Li, 2010). The pre-service training for foreign teachers in China and Uzbekistan mainly suffers from issues such as short training duration, monotonous content, and single training methods. Universities often conduct perfunctory pre-service training for foreign teachers, typically lasting only one to two weeks for newly appointed foreign teachers. Such short training periods cannot effectively achieve the training objectives or meet the needs of foreign teachers. Although the content of pre-service training in universities includes policy legislation, school overview and regulations, educational objectives, teacher assessment and evaluation models, due to cultural differences, what universities provide is only a small part of it. Some universities even offer only a few hours of concentrated training, leaving foreign teachers to rush into their positions. For a long time, most universities have adopted an indoctrination-based, large-scale collective training approach, which lacks specificity and practicality due to its one-way information dissemination, resulting in minimal effectiveness.

Unsupervised power inevitably leads to corruption, and unsupervised foreign teachers inevitably lead to loss of control. The supervision and evaluation of foreign teachers by universities are aimed at better safeguarding their legitimate rights and better serving educational teaching. At the level of supervision, “supervision” means monitoring and inspection, while “guidance” means guiding and assisting. In practice, it has become common to supervise without providing guidance. University supervision of foreign teachers includes forms such as attending classes, checking exam situations, and student evaluations. On one hand, student evaluations are often subjective, and students may not prioritize them enough, making it difficult for this form of supervision to reflect the true teaching situation of foreign

teachers. On the other hand, after the school's supervision work is completed, there is no timely communication with foreign teachers, resulting in their inability to identify and correct deficiencies and shortcomings in their work (Yun Qin, 2020). At the evaluation level, some universities still cannot formulate scientific assessment methods for foreign teachers based on their actual situations, nor establish institutionalized, scientific, and standardized reward and punishment mechanisms for foreign teachers. Specifically, if evaluation results do not receive timely and effective feedback, and regardless of the evaluation outcome, it does not affect the salary and employment of foreign teachers, then the evaluation loses its proper guiding, motivating, and punitive functions (Adriance, Laura A., 2005).

Communication and coordination perspectives: inadequate cooperation mechanisms

With the education cooperation between China and Uzbekistan as the basis, from the perspective of transnational communication and coordination, the inadequate cooperation mechanism is also one of the dilemmas restricting the improvement of the system for safeguarding the rights and interests of foreign teachers in China and Uzbekistan. According to Teacher Ye Kui, foreign teachers generally lack a sense of belonging when working in China, making it difficult for them to integrate into university life. There is a natural language communication barrier between foreign teachers and local teachers. Additionally, if foreign teachers do not receive pre-job training before joining, it will increase the gap between them and local teachers, thus affecting the enthusiasm of foreign teachers in education and teaching (Kui Ye, 2017). The language barrier is undoubtedly the core factor leading to the inadequate cooperation mechanism. Language serves as the bridge for human communication. Due to language barriers, communication between foreign teachers and educational administrative departments, universities, local teachers, and students is extremely difficult. This not only affects foreign teachers' timely and accurate expression of their own needs and demands but also leads to a lack of understanding of students' needs and timely feedback, thereby affecting students' learning outcomes and the teaching achievements of foreign teachers.

With the deepening of the globalization of education and the internationalization of faculty in China and Uzbekistan, in addition to language communication barriers, the increasingly inadequate official communication channels of governments, ineffective informal exchanges, and incomplete information sharing mechanisms have become important factors leading to the inadequacy of the cooperation mechanism. Educational cooperation between China and Uzbekistan are becoming more frequent. However, the two sides have not established specialized and normalized official government communication channels for safeguarding the rights and interests of foreign teachers. Moreover, as safeguarding the rights and interests of foreign teachers usually involves multiple administrative departments, this exacerbates the delay in information transmission and leads to the inability to timely address and provide feedback on issues faced by foreign teachers. In addition to official government communication channels, informal exchanges in the education sector between China and Uzbekistan are relatively limited compared to those with Western countries. Moreover, these exchanges lack specificity and effectiveness. Consequently, when the rights and interests of foreign teachers are violated, it is difficult to resolve issues and safeguard their legitimate rights and interests through low-cost and efficient informal channels. In the process of safeguarding the rights and interests of foreign teachers, China and Uzbekistan lack an information sharing mechanism. As a result, the two countries are unable to timely exchange information on the qualification certification, appointment procedures, salary treatment, social insurance, and other aspects of foreign teachers, making it difficult to form collaborative synergy. These problems are prone to making foreign teachers feel lonely and insecure, resulting in an increase in the turnover rate of foreign teachers and other negative consequences (Hui Yang, 2015).

Legal solutions to the dilemmas

Omni-directional: improving the policy and legislative system

Based on practical experience and starting from the current challenges, legislative and administrative agencies in China and Uzbekistan should conduct comprehensive research, understanding, and analysis of the needs of the system for safeguarding the rights and interests of foreign teachers. They should listen to the demands of various stakeholders regarding this system, adopt an exploratory approach, and continuously explore foreign teacher rights and interests protection systems that meet the needs and are suitable for their respective countries.

Firstly, expedite the enactment of specialized laws for protecting the rights and interests of foreign teachers. In recent years, relevant departments have formulated numerous regulations, measures, or standards concerning the protection of foreign teachers' rights and interests, but these existing rules have not been solidified into fundamental laws. Therefore, based on a full consideration of their respective national conditions and development, China and Uzbekistan should draw on advanced international experience and formulate specialized laws for safeguarding the rights and interests of foreign teachers. These laws should clarify the appointment procedures, working conditions, salary treatment, social insurance, dispute resolution mechanisms, and related rights and obligations of foreign teachers (Lina Zheng, 2020).

Secondly, regarding specific systems, it is essential to clarify the nature of foreign teachers' identities, such as whether they are included in the civil service system or entitled to special treatment. Detailed lists of rights and obligations for foreign teachers should be formulated, specifying their rights to participate in school decisions, access teaching resources, receive rewards for achievements, and their obligations to comply with laws and regulations, professional ethics, and academic norms. Additionally, clear appointment conditions, procedures, terms, dismissal

reasons, and procedures should be established for foreign teachers to prevent arbitrary dismissal and malicious salary arrears. A salary system that aligns with local teachers should be established, along with various social insurance benefits, to reduce the work and life risks of foreign teachers. Furthermore, a diverse dispute resolution mechanism, including litigation, arbitration, mediation, and reconciliation, should be established for potential disputes between foreign teachers and universities.

Finally, universities should enact regulations for safeguarding the rights and interests of foreign teachers based on relevant national policies and considering their specific circumstances. The author suggests that universities establish internal working groups for safeguarding the rights and interests of foreign teachers. These groups should be led by the president or vice president in charge, with members from the human resources department, foreign affairs department, teaching department, logistics department, and representatives appointed by foreign teachers. The group should study relevant national policies and legislation, carefully listen to suggestions from foreign teachers, local teachers, and students, and adopt a multi-round deliberation and anonymous voting approach to ensure that the regulations formulated by the university for safeguarding the rights and interests of foreign teachers are legal, reasonable, and appropriate.

Multi-angle: Strengthening measures to safeguard rights and interests

Firstly, enhance the training system for foreign teachers. In order to facilitate foreign teachers' rapid adaptation to the work and living environment in the host country and to mitigate cultural barriers, it is necessary for universities to conduct systematic and comprehensive training for foreign teachers. Regarding the training content, the "comprehensiveness principle" should be upheld, covering laws and regulations, educational systems, school regulations, basic information about the school, teaching and research situations, essential living information, as well as history, culture, climate, festivals, etc. A bilingual practical handbook for foreign teachers should be produced, and necessary Chinese language training should be provided to alleviate their language communication barriers (Zhijie Chen, 2015). As for the training methods, the "diversity principle" should be adhered to, avoiding being confined to unidirectional large-scale collective training methods. Targeted activities such as field visits, batch training, and cross-cultural exchange salons should be organized based on the professional development characteristics of foreign teachers. Secondly, strengthen the humanistic care for foreign teachers. For foreign teachers living in a foreign country, universities need to continuously enhance their humanistic care to make them feel a sense of belonging and security, which is also crucial for retaining foreign talents. Universities should adhere to a people-oriented approach, actively create a favorable working and living environment for foreign teachers, foster a work and life atmosphere characterized by mutual respect and trust, while respecting the culture, festivals, and customs of foreign teachers. Understanding their needs and demands, establishing and improving effective feedback mechanisms, safeguarding their legitimate rights and interests, organizing diverse cross-cultural exchange activities, and paying as much attention as possible to their work and life are essential (A. Cao, J. Hu, 2012).

Finally, standardize the employment contracts for foreign teachers. Contracts are essential tools to avoid or minimize disputes, and standardizing the employment contracts for foreign teachers is a crucial means of safeguarding their rights and interests. The human resources department of universities should sign formal standard contracts with foreign teachers. Contract terms should consider the conditions of both parties and the national conditions of the two countries, detailing the rights and obligations of both parties, specifying the start and end dates of the contract, work objectives, tasks, salary levels, benefits, social insurance, vacation regulations, breach of contract responsibilities, dispute resolution, and other matters. To effectively safeguard the legitimate rights and interests of foreign teachers and avoid high medical expenses, universities should purchase medical insurance for foreign teachers as much as possible and include this in the employment contract. Furthermore, the employment contract should also specify in detail the reward and punishment mechanism for foreign teachers by the university. Adequate rewards should be given to outstandingly evaluated foreign teachers, while inadequate evaluations may lead to salary deductions or dismissal, depending on the circumstances (Zhihong Wu et al., 2000).

Multi-level: Improving the Supervision and Evaluation System

Firstly, establish relatively independent supervision institutions for foreign teachers. Both Chinese and Uzbekistan universities have established supervision teams for domestic teachers, but supervision for foreign teachers is unique. Relying solely on supervision teams attached to the academic affairs department for supervising foreign teachers may lack impartiality and fail to achieve the effectiveness of "supervision" and "guidance". Universities should establish relatively independent supervision institutions for foreign teachers, which are closely coordinated with the academic affairs department, to strictly supervise and guide foreign teachers in terms of appointment, teaching, research, and professional ethics. Additionally, professional institutions require professional personnel. Universities should cultivate a high-quality team of foreign teacher supervisors with strong political literacy, international perspectives, knowledge of policy legislation, and proficiency in foreign languages (Qihong Zhang, Xueyan, Zhang, 2010).

Secondly, optimize the evaluation mechanism for foreign teachers. The evaluation mechanism serves as a lever for universities to fully leverage the benefits of employing foreign teachers and to understand their teaching and research situations. It can clarify the strengths and weaknesses of foreign teachers in teaching and research, enhance their strengths, and improve the overall international education level of universities. The author suggests that universities consider establishing a comprehensive evaluation mechanism for foreign teachers, integrating self-assessment, student

evaluation, department evaluation, and supervision institution evaluation. This approach avoids the subjective biases that may arise from relying solely on student or supervisory evaluations, ensuring the objectivity, comprehensiveness, and reliability of the evaluation. Moreover, universities should make full use of the evaluation results of foreign teachers, establish feedback mechanisms, enhance communication with foreign teachers, implement immediate improvements based on feedback, mobilize their enthusiasm and creativity, enhance their teaching and research capabilities, and promote sustainable development (Tajino A., Tajino Y., 2000).

Finally, improve the reward and punishment system for foreign teachers. Excellent foreign teachers should be appropriately rewarded, both materially and spiritually. Money is the most direct reward for labor. Increasing salaries, providing allowances or bonuses are the most direct material rewards. Universities should allocate special funds to improve the quality of material rewards for foreign teachers, offering attractive incentives such as salary increases, allowances or bonuses, vacation days, and travel reimbursements. Furthermore, it is essential to place adequate emphasis on rewarding foreign teachers at the spiritual level, such as issuing certificates of honor and granting honorary titles, to enhance their sense of honor, achievement, and belonging. In the case of foreign teachers who are evaluated as unsatisfactory, measures such as counseling, warnings, salary deductions, or dismissal should be taken. In practice, some foreign teachers do exhibit negative work attitudes, violate professional ethics, or even commit crimes. Only by implementing strict disciplinary measures can the authority of the system be established and exemplary punishments be administered (Xi Lu, Zhang Dalu, 2023).

Deep-level: Strengthening transnational communication and coordination

At the historical juncture of the “great changes unseen in a century”, the uncertainties of education globalization and the internationalization of teaching staff continue to increase. Universities need to continuously analyze and timely adjust the system for protecting the rights and interests of foreign teachers. Taking the education cooperation between China and Uzbekistan as an example, internally, China and Uzbekistan should establish a cooperative system for teachers. Externally, they should sign a bilateral agreement on safeguarding the rights and interests of foreign teachers between China and Uzbekistan and establish a platform for sharing information on foreign teachers.

Firstly, establish a cooperative system for teachers between China and Uzbekistan. In order to help foreign teachers integrate into the working and living environment of universities as quickly as possible, reduce blind work, and improve teaching and research efficiency, universities in China and Uzbekistan should establish a cooperative system for teachers. Teachers in China and Uzbekistan each have their own characteristics and advantages. Universities in China and Uzbekistan should provide each other with native teachers who have good language skills and high comprehensive qualities to serve as cooperative teachers for foreign teachers. Cooperative teachers should act as “intermediaries”, maintaining contact between themselves, foreign teachers, colleges, and school administrative departments. They also serve as “teaching assistants”, entering the classrooms of foreign teachers, helping them understand teaching objectives, student habits, and teaching responsibilities, devising practical and feasible teaching plans, and completing established teaching tasks. Cooperative teachers are also “reformers”, who, through cooperation with foreign teachers, promptly recognize the strengths and weaknesses of teaching and research in universities, and propose new teaching and research reform plans. Additionally, under the joint leadership of the foreign affairs and education departments of China and Uzbekistan, a fixed exchange mechanism for teachers between China and Uzbekistan can be established, coordinating the introduction and dispatch of foreign teachers from China and Uzbekistan, holding regular exchange activities, and promoting cultural exchange and mutual learning.

Secondly, sign a bilateral agreement between China and Uzbekistan on safeguarding the rights and interests of foreign teachers and establish a platform for sharing information on foreign teachers. Recently, the Ministry of Education of China and the Ministry of Higher Education, Science, and Innovation of Uzbekistan jointly held the China-Uzbekistan Hundred Schools Cooperation Forum. The two countries signed the “Beijing Declaration on China-Uzbekistan University Cooperation”, further strengthening the exchange mechanism of higher education institutions, establishing a platform for mutual learning, and promoting the development of digital education cooperation. Since the signing of the agreement on the mutual recognition of diplomas and degrees between China and Uzbekistan in 1993, China and Uzbekistan have continued to promote the sharing of educational resources and deepen cultural exchange cooperation (Li Qiang, 2024). Against the backdrop of the “new era” in the education cooperation between China and Uzbekistan, it is necessary to timely promote the signing of a bilateral agreement on safeguarding the rights and interests of foreign teachers between the two countries. This agreement should be in the form of an international treaty, setting out the rights and obligations of the two countries and encouraging educational institutions such as universities and primary and secondary schools to exchange teachers, thus forming a cooperative force. In practice, both China and Uzbekistan should establish a platform for sharing information on foreign teachers, which includes teachers from each other’s countries. On the basis of strictly protecting the personal privacy of foreign teachers, the platform should upload and regularly update the basic information, workplace evaluations, criminal record certificates, medical examination reports, ethics and professional conduct, and records of rewards and punishments of foreign teachers in a timely manner. Following the principle of “joint construction, joint governance, and sharing”, this platform should integrate relevant information on foreign teachers to promote the intelligence, scientificity, and standardization of the work of safeguarding the rights and interests of foreign teachers. Additionally, this platform should establish a mechanism for recommending outstanding teachers. Universities in China and Uzbekistan should communicate about the supervision

and evaluation mechanism for foreign teachers from each other countries. Both countries' universities can recommend native teachers who have been rated as outstanding teachers at their own schools at least twice on this platform, providing them with material and spiritual support, and realizing complementary exchanges of high-quality teaching staff (MuRong Hui et al., 2021).

Conclusion

Xi Jinping put forward that "China today is not only the China of China, but also the China of Asia and the China of the world". The internationalization of education and teachers is a necessary way for a country to improve its education level and enhance its international influence in the context of globalization. In the face of the growing demand for foreign teachers in China and Uzbekistan, the article focuses on the protection of the rights and interests of foreign teachers, based on the protection system of the rights and interests of foreign teachers in China and Uzbekistan, analyzes the dilemma of the protection system of the rights and interests of foreign teachers in China and Uzbekistan from the perspectives of policy and legislation, supervision and management, communication and coordination, and puts forward rule of law solutions to crack the dilemma of the protection system of the rights and interests of foreign teachers in China and Uzbekistan with the intention of promoting China and Uzbekistan to "It is intended to promote mutual learning, cooperation and win-win cooperation between China and Uzbekistan, and to build China-Uzbekistan education community hand in hand (Qin Yun, 2020).

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Conflict of Interest

The authors declare no conflict of interest.

References

- [1] Chengwu, Lou, & Wanbing, Shi (2005). Research on Management Models of Research Universities. Higher Education Press.
- [2] Zolfaghari, A., Sabran, M. S., & Zolfaghari, A. (2009). Internationalization of higher education: challenges, strategies, policies and programs. Online Submission, 6(5), 1-9.
- [3] Xiaoping, Deng (2019, August 1). China is a big market, many countries want to have some cooperation and trade with us, we should make good use of it, from <http://cpc.people.com.cn/n1/2019/0801/c69113-31270028.html>.
- [4] Yuanyuan, Zhang (2009). Research on the Management Problems of Foreign Teachers in China's Private Colleges and Universities - Taking Private S College in Jilin Province as an Example. Northeast Normal University PhD Dissertation.
- [5] Shi Shan (2006). The Road of Internationalization of Chinese Universities. International Talent Exchange (11), 4.
- [6] Yong Xie, & Nianning, Chen (2013). The Development, Problems and Countermeasures of China's Higher Education's Foreign Intelligence-Related Work. Natural Dialectics Research (07), 67-72.
- [7] Zigu, Li (2023 January 30). Uzbekistan: Moving Forward in the Midst of Profound Changes, from https://www.ciis.org.cn/yjcg/xslw/202301/t20230130_8852.html.
- [8] Sultanov Mukhtor Mamadaliyevich, & Dzhumaev Mamanazar Irgashevich (2020). The Basic Directions of the Accomplishment of Preparatory Conception of Future Teachers in Modernization of Education. Technium Social Sciences Journal (10), 115-120.
- [9] China Society of Higher Education, Branch of Introducing Foreign Intelligence (2007). Theory and Practice of University Internationalization. Peking University Press.
- [10] Literature Research Office of the Central Committee of the Communist Party of China (2015). Extracts from Xi Jinping's Discourses on the Comprehensive Rule of Law. Central Literature Press.
- [11] Xin Wang (2023). Research on the Status Quo of Foreign Teachers' Management and Optimization Strategies in Local General Colleges and Universities. Shenyang Normal University PhD Dissertation.
- [12] Wanbing, Shi, & Hui Yang (2013). Empirical Research on the Status Quo of Teaching and Management of Foreign Teachers in Colleges and Universities - Taking Liaoning Geographic Higher Education Institutions as Research Objects. Modern Education Management (02), 86-90.
- [13] Kun Qian (2022). Exploring the Path of Teacher Virtue File System Construction for Foreign Teachers in China Lantai Inside and Outside (27), 55-57.
- [14] Sitong, Lai (2022). A preliminary study on cross-cultural management of foreign talents in colleges and universities. Heilongjiang Human Resources and Social Security (05), 63-65.
- [15] Xianying, Cheng, & Dongbo, Fang (2021). Research on Management Mode of Foreign Teachers. Mechanical Vocational Education (09), 58-62.
- [16] Jiayun, Zhu, & Ning Miao (2018). Research on Management of Foreign Teachers. Education Teaching Forum (25), 15-17.

- [17] Yanhui, Li (2010). Trying to Discuss the Teaching Characteristics and Appointment and Management of Foreign Teachers. *Education and Career* (18), 56-57.
- [18] Yun Qin (2020). Problems and Optimization Strategies in Teaching Management of Foreign Teachers in Colleges and Universities. *Journal of Heilongjiang Teacher Development Institute* (03), 22-24.
- [19] Adriance, Laura A. (2005) Exploring Influences on Teachers' Motivational Factors Related to Human Capital Retent in the Christian School. Capella University Press.
- [20] Kui Ye (2017). The Management of Foreign Teachers in Higher Vocational Colleges and Universities from a Cross-Cultural Perspective. *Economic and Trade Practice* (12), 252-253.
- [21] Hui Yang (2015). Research on the Management Elements of Foreign Teachers in Higher Education Schools Based on System Management Theory. Northeastern University PhD Dissertation.
- [22] Lina, Zheng (2020). Management of Foreign Teachers in Colleges and Universities: Problems and Decisions. *Education Modernization* (05), 128-129.
- [23] Zhijie, Chen (2015). Exploring the Cross-cultural Management of Foreign Teachers in General Colleges and Universities--Taking Fujian Agriculture and Forestry University as an Example. *Journal of Fujian Institute of Education* (04), 59-62.
- [24] Aie Cao, & J. Hu (2012). Analysis of Cross-cultural Management of Foreign Teachers in Colleges and Universities Based on the Differences between Chinese and Western Cultures. *Journal of Nanyang Polytechnic Institute* (03), 60-63.
- [25] Zhihong, Wu, Daming, Feng, & Jiafang, Zhou (2000). *New Educational Management*. East China Normal University Press.
- [26] QiuHong, Zhang, & Xueyan, Zhang (2010). The application of humanistic concepts in the practical work of expatriate teacher management. *Journal of Changchun University* (02), 99-101.
- [27] Tajino A., & Tajino Y. (2000). Native and Non-Native: What Can They Offer? Lessons from Team Teaching in Japan. *ELT Journal* (01), 54.
- [28] Lu Xi, & Dalu, Zhang (2023). The Dilemma of Implementing Faculty Internationalization in Colleges and Universities in the Post-Global Era and Future Prospects. *China Medical Education Technology* (02), 161-165.
- [29] Qiang Li (2024 February 27). Deepening Educational Cooperation between China and Uzbekistan, from http://paper.people.com.cn/rmrb/html/2024-02/27/nw.D110000renmrb_20240227_3-17.htm.
- [30] Hui Murong, Feng Duan, & Jialing, Zhao (2021). Research on the Optimization of Foreign Teachers' File Management in Universities. *Journal of Zhaoqing College* (03), 87-90.
- [31] Yun Qin (2020). Problems and Optimization Strategies in Teaching Management of Foreign Teachers in Colleges and Universities. *Journal of Heilongjiang Teacher Development Institute* (03), 22-24.

How can the new energy economy achieve better development under the background of the digital economy

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Abstract

China needs to develop the digital economy, accelerate the promotion of artificial intelligence, and utilize digital technologies to speed up the upgrading of traditional industries. Meanwhile, it should also develop digital consumption and digital trade. As China's economy shifts from the real estate economy to the digital economy in the future, during the explosive growth of computing power, there will also be an explosive increase in the demand for energy. In terms of energy, it can support China's future development of the digital economy. In the past two years, we have witnessed the rapid development of China's new energy. In the short term, there may be a certain overcapacity. In the future, once the digital economy grows and prospers, there may be an energy shortage globally. China has unparalleled advantages both in terms of data and computing power. China's renewable energy accounts for 30% of the global production capacity. Therefore, the future application scenario of China's new energy is the digital economy. Overall, we are still very optimistic about the development prospects of China's new growth drivers during the transition between old and new growth engines.

Keywords : Clean energy; Digital economy; Industrial upgrading; Sustainable development

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Introduction

There is an inseparable relationship between the digital economy and the new energy economy. Centered around information technology, the digital economy drives industrial transformation and innovative development through digital, networked, and intelligent technologies, injecting new vitality into the development of the new energy economy. The digital economy has enhanced the intelligent level of the new energy industry, facilitating real-time monitoring, precise control, and intelligent dispatching of new energy products, improving the utilization efficiency and economic viability of new energy, and spurring technological innovation and breakthroughs in the new energy field. The impact of the digital economy on the new energy economy is manifested in multiple aspects. Firstly, the digital economy provides informational support for the new energy economy. The application of technologies such as big data analysis, artificial intelligence, and the Internet of Things makes the production process of new energy more intelligent and efficient. Through digital means, the production, storage, transportation, and consumption processes of new energy are optimized, reducing production costs, enhancing energy utilization efficiency, and accelerating the popularization and application of new energy technologies. Secondly, the digital economy promotes the diversified development of the new energy economy. The application of digital technologies makes it possible for the diversified utilization of new energy. For example, the digital economy has given birth to the concept of the energy Internet. Through the construction of smart grids and the application of energy Internet technologies, new energy can be better integrated into the energy system, forming complementarity and synergy with traditional energy, improving the overall energy

utilization efficiency, and driving the optimization and diversification of the energy structure. In addition, the digital economy also provides new space for market expansion for new energy. With the support of the digital economy, new energy products are gradually moving towards high value-added and high-quality directions, opening up competitive space for the new energy industry in the energy market. Meanwhile, the digital economy also provides broader channels for the promotion and marketing of new energy products, facilitating the expansion and growth of the new energy market. In conclusion, the digital economy, with the support of information technology, diversified development, and market expansion, has greatly promoted the development, growth, and enhancement of the new energy economy, providing important support and guarantee for the better development of the new energy economy. Therefore, it is necessary to further deepen the integrated development of the digital economy and the new energy economy to promote the leapfrog development of the new energy economy and achieve the goal of sustainable development.

Literature Review

With the prominence of environmental issues and the limitations of traditional energy, the development of new energy has become a global focus. Currently, the new energy sector has entered a period of rapid growth. The utilization of clean energy such as solar energy and wind energy has been continuously expanding and has gradually become an important part of the energy field. Along with the global energy structure adjustment and continuous breakthroughs in new energy technologies, the proportion of new energy in the energy structure has been constantly increasing.

Domestically, the new energy industry in China has witnessed rapid development and has reached a large scale. In the field of solar energy, China has become the world's largest producer of photovoltaic modules. The cost of photovoltaic power generation has been continuously decreasing, and there are diverse "photovoltaic +" application models. Projects such as photovoltaic agriculture and photovoltaic poverty alleviation have promoted the integration of energy with other industries. In the wind energy sector, China is the world's largest wind power market. The manufacturing technology of wind turbines has witnessed continuous breakthroughs, and wind farms are scattered across the northwest, north China and coastal areas. Meanwhile, the new energy vehicle industry is booming, with its production and sales ranking first in the world. The construction of charging infrastructure is gradually being improved, and the level of battery technology has been enhanced, driving the coordinated development of upstream and downstream industries.

Internationally, Europe is at the forefront in the utilization of new energy, especially in the fields of wind energy and solar energy. Denmark is a model in wind energy utilization. The proportion of wind power generation in its total national electricity consumption is quite high, and its related technologies are mature. It has rich experience in the construction and operation of offshore wind farms. Germany has been vigorously promoting the development of solar energy. It encourages households and enterprises to install solar panels through policy subsidies. Its installed capacity of photovoltaic power generation ranks among the top in the world, and it has invested heavily in the research and development of energy storage technology to solve the intermittency problem of new energy. The United States has made many investments in the new energy field and has achieved results in the innovation of new energy vehicle battery technology and the development of bioenergy. Enterprises like Tesla are leading the global technological trend of new energy vehicles, and the production of biofuels such as bioethanol is considerable and widely applied.

However, both domestic and foreign new energy development face challenges. Domestically, issues such as technological costs and new energy consumption and absorption still need to be solved. In some regions, the phenomena of wind and solar energy curtailment exist. The adaptability between energy storage technology and new energy development is insufficient, and the peak shaving capacity of the power grid needs to be improved. Internationally, new energy policies are unstable due to the influence of political factors, and international trade disputes in the new energy industry are on the rise. In general, both opportunities and challenges exist in the

development of new energy at home and abroad, and continuous technological innovation and policy optimization are required. Based on the analysis of the current situation of new energy development, we need to clearly understand the situation, identify problems and actively respond to promote the better development of the new energy economy.

Research Objectives

Technology and cost remain one of the key issues restricting the development of the new energy economy. Although clean energy technologies such as solar energy and wind energy have witnessed continuous breakthroughs, the technological costs are still relatively high, which restricts the competitiveness of new energy in the market. The problem of energy consumption and absorption has become a bottleneck restricting the development of new energy. The large-scale power generation and consumption absorption of clean energy have always been difficult problems plaguing the development of new energy. The problem of wind and solar energy curtailment caused by serious overcapacity not only leads to the waste of resources but also results in the waste of energy. The problem of energy waste urgently needs to be solved. This paper intends to study whether the problems of technology and cost can solve the difficult problem of energy consumption and absorption.

In addition, the energy storage problem of new energy is also a key obstacle restricting its development. An ideal energy storage technology has not yet been found, resulting in the instability and intermittency of new energy becoming a shortcoming restricting its application.

Although the new energy economy has achieved considerable development driven by the digital economy, it still faces some constraints and challenges. Factors such as technological costs, energy storage problems, energy consumption and absorption, and imperfect policies and market mechanisms have restricted the development of the new energy economy. Solving these key issues requires the joint efforts of the whole society and the entire industrial chain, as well as the active participation of the government, enterprises, scientific research institutions and consumers, so as to jointly promote the new energy economy to embark on the path of sustainable development, drive energy transformation and achieve a win-win situation for the economy, society and environment.

Application of Technological Progress such as the Digital Economy in Renewable Energy

Focus on Technological Dilemmas: Shortcomings in Energy Storage and Constraints on Photovoltaic Efficiency

On the one hand, the technological dilemmas are significant, and energy storage technology is still immature. Battery energy density is low, charge and discharge efficiency is low, and battery service life is short. This leads to difficulties in stable storage of electrical energy and an inability to flexibly respond to peak and valley changes in electricity consumption. In terms of conversion efficiency, the photoelectric conversion efficiency of photovoltaic cells is restricted by materials and processes and it is difficult to break through the bottleneck, which restricts the full utilization of solar energy.

On the other hand, there is a spatio-temporal mismatch between energy production and consumption. In the western regions, new energy is generated on a large scale, but the local consumption and absorption capacity is limited. In the eastern regions with higher energy demand, the production capacity of new energy is insufficient. Long-distance power transmission will cause a large amount of power loss. Coupled with the intermittent and fluctuating characteristics of wind power and photovoltaic power, the problem of consumption and absorption is further aggravated, and the phenomena of "wind curtailment" and "solar curtailment" occur from time to time.

Empowerment by Technology: Digital Technology Illuminates a New Chapter for Renewable Energy

The technological progress of the digital economy and others has brought hope for breaking the deadlock. In the research and development stage, using big data and artificial intelligence technologies can accurately analyze the characteristics of battery materials, accelerate the research and development of high-performance energy storage materials, and improve energy storage technology. Meanwhile, using machine learning algorithms to optimize the production process parameters of photovoltaic cells is expected to improve the photoelectric conversion efficiency. For the consumption and absorption of renewable energy, the Internet of Things technology realizes real-time monitoring of all links in energy production, transmission and consumption. Combined with the precise regulation of the smart grid, electricity can be dynamically allocated according to electricity demand to smooth out peaks and valleys. Digital twin technology creates a virtual energy system, simulates the energy supply and demand situation under different scenarios, and plans consumption and absorption schemes in advance to ensure the efficient utilization of renewable energy and steadily promote energy transformation.

Development Strategies for the Future New Energy Economy

The Government Should Increase Support for the New Energy Field

The government should increase its investment and support for the new energy field, widely solicit excellent projects in new energy scientific and technological innovation, application demonstration and market-oriented operation, and provide corresponding financial support and policy incentives to encourage enterprises to increase their research and development efforts and accelerate the innovation and industrialization process of new energy technologies.

Strengthen International Cooperation and Exchange in New Energy Technologies

Strengthen international cooperation and exchange in new energy technologies, jointly research and develop new energy technology equipment, jointly build smart energy demonstration cities, share the best practices in new energy applications, strengthen international exchanges and cooperation in the new energy field, and promote the globalization of the new energy economy.

Establish and Improve the New Energy Policy System and Market Mechanism

Establish and improve the new energy policy system and market mechanism, gradually establish and improve the new energy industry policy system, and promote the market-oriented process of new energy development. In terms of market mechanism construction, the pace of energy market reform should be accelerated, the construction of a modern energy market system should be promoted, and multi-level and multi-type new energy markets should be established. Meanwhile, the construction of laws, regulations and standard systems for new energy development should also be promoted to create a fair competitive market environment.

Strengthen the Work on New Energy Technology Standards and Quality Certification

Strengthen the work on new energy technology standards and quality certification, accelerate the establishment and improvement of the standardization and certification systems for technologies and products such as smart grids and distributed energy, improve the technical quality level of new energy products, and ensure the healthy development of the new energy economy.

Focus on Talent Cultivation and Introduction in the New Energy Field

Focus on talent cultivation and introduction in the new energy field, increase the introduction and cultivation efforts for outstanding talents in the new energy field, encourage more talents to engage in the research and practice of the new energy field, and provide a solid talent guarantee for the development of the new energy economy.

Joint Efforts of the Government, Enterprises, Scientific Research Institutions and Market Entities

With the rapid development of the digital economy, the new energy economy is facing new development opportunities and challenges. In order to better promote the sustainable development of the new energy economy, a series of effective development strategies are needed. The future development strategies for the new energy economy require the joint efforts of the government, enterprises, scientific research institutions and market entities to jointly promote the leapfrog development of the new energy economy, build a cleaner, safer and more sustainable energy system, and achieve the sustainable development goals for the economy, society and environment.

Conclusion

The digital economy, with the support of information technology, diversified development and market expansion, has greatly promoted the development, growth and enhancement of the new energy economy, providing important support and guarantee for the better development of the new energy economy. Therefore, it is necessary to further deepen the integrated development of the digital economy and the new energy economy, promote the leapfrog development of the new energy economy and achieve the goal of sustainable development.

Although the new energy economy has achieved considerable development driven by the digital economy, it still faces some constraints and challenges. Factors such as technological costs, energy storage problems, energy consumption and absorption, and imperfect policies and market mechanisms have restricted the development of the new energy economy. Solving these key issues requires the joint efforts of the whole society and the entire industrial chain, as well as the active participation of the government, enterprises, scientific research institutions and consumers, so as to jointly promote the new energy economy to embark on the path of sustainable development, drive energy transformation and achieve a win-win situation for the economy, society and environment.

Innovative technologies play a vital role in the new energy economy. The application of innovative technologies in the new energy economy not only improves the intelligent level of new energy but also expands the diversified utilization ways of the new energy industry. Meanwhile, it also provides new possibilities for the storage and utilization of new energy. With the continuous emergence and development of innovative technologies, it is believed that the new energy economy will embrace a more brilliant future.

With the rapid development of the digital economy, the new energy economy is facing new development opportunities and challenges. In order to better promote the sustainable development of the new energy economy, a series of effective development strategies are needed. The future development strategies for the new energy economy require the joint efforts of the government, enterprises, scientific research institutions and market entities to jointly promote the leapfrog development of the new energy economy, build a cleaner, safer and more sustainable energy system and achieve the goal of sustainable development for the economy, society and environment.

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References

- [1] Zhang, X. L. (2024). Potential Impact of Land Policy Change and Population Ageing on House Price Volatility[J]. *Modern Economics & Management Forum*, 5(2).DOI: 10.32629/memf.v5i2.1988
- [2] Liu, Y., & Zhang, X. (2024). Technological innovation, financing constraints, and carbon reduction in energy companies—From the perspective of the corporate lifecycle[J]. *Journal of Infrastructure, Policy and Development*. 8(8): 5860. DOI: <https://doi.org/10.24294/jipd.v8i8.5860>
- [3] Meng, X. F. (2019). A brief discussion on the current development status of China's new energy economy in the new era. *Chinese & Foreign Entrepreneurs*, (24), 46.
- [4] Tian, X. H. (2017). Analysis on the current development status of China's new energy economy in the new era. *Modern Economic Information*, (06), 350.
- [5] Zhang, S. W. (2020). Analysis on the current situation and development obstacles of the new energy economy. *Inner Mongolia Coal Economy*, (19), 151-152.DOI:10.13487/j.cnki.imce.018639.
- [6] Fang, T. S. (2022). Research on the economic policy effects of the high-quality development of China's new energy [Doctoral dissertation, Jilin University]. DOI: <https://kns.cnki.net/KCMS/detail/detail.aspx?dbcode=CDFD&dbname=CDFD2023&filename=1022525774.nh>
- [7] Zhang, Z. X., Guan, Y. J., Tian, Y. Z., & Zhang, L. (2023). Introduction to the column on leadership and organizational innovation in the digital economy era. *Management Science*, (03), 1-2.
- [8] Wang, F. H. (2023). Innovative paths of human resource management in the digital economy era. *China's Collective Economy*, (26), 110-113.
- [9] Pang, R. Z., Meng, H., & Li, S. (2019). A Comparative Study on the Development of New Energy Economic Industries across the Taiwan Strait.
- [10] Zhao, Q. (2022). Leading High-Quality Development with the Digital Economy. *People's Daily*, Issue 22.
- [11] Jiang, X. J. (2022). On the Marginal Benefits of the Digital Economy. *Study Times*, Issue 10.
- [12] Li, X. (2023). Trends and Challenges in the Development of the New Energy Economy.

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