

● The Influence of Cross-border Logistics Enterprises Managers' Psychological Resilience on Corporate Resilience Dezhang Cheng and Qinshiyi Yan..... ● Research on the Weight Analysis of Influencing Factors in the Creation Process of Contemporary Chinese Flower and Bird Painting from the Perspective of Artistic Management Mingrui Hu and Fangning Li ● The Rational Upgrade of Dance Teaching in the Curriculum System for Talent Development in Film and Television Performance: The Case of Beijing Film Academy Shijie Du ● An Analysis on the Inheritance and Development of Chinese Han and Tang Classical Dance Schools: Exploration and Verification Based on Mixed Research Methods Xing Zhang and Zhirui Zou ● Research on the Role Dilemma and Coping Strategies of College Counselors in the Psychological Crisis Intervention of College Students Yan Jiang ● The Management of Health Events and Activities for Promoting Public Health Awareness Yanisa Yanatham, Wiyada Peerarattakun, and Terapat Chearapong..... ● Audience Attitudes Toward the Management of Artists' Image on Online Media in Crisis Situations Yanisa Yanatham, Patchara Chatchaipannaporn, and Kritsada Wongwatthanakiad ● The Academic Adaptation of International Students in China Ye Zhang and Yaoming Gao..... ● Integration of Top Management Team Behavior and Corporate Strategic Flexibility from a Dynamic Perspective: Evidence from Chinese Enterprises Zhao Lu ● Research on the Logistics Efficiency Evaluation of Hunan Province Based on the DEA Model Zhen Wang and Hong Yan.....	7 27 43 57 73 89 103 117 129 149
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Welcome Address from President, Sripatum University

Welcome to the thirteenth volume of International Journal of Management, Business, and Economics (IJMBE). IJMBE is dedicated to increasing the depth of the subject across business disciplines with the ultimate aim of expanding knowledge of the subject. The IJMBE is a thrice peer-reviewed journal published by Graduate College of Management, Sripatum University; University of Greenwich; and Lincoln University.

In retrospect, Sripatum University, one of the oldest and most prestigious private universities in Thailand, was established in 1970 by Dr. Sook Pookayaporn by the name "Sripatum College." The name "Sripatum" meaning "Source of Knowledge Blooming like a Lotus" was conferred on the college by Her Royal Highness the Princess Mother. In 1987, the college was promoted to university status by the Ministry of University Affairs, and has since been known as Sripatum University. The university's main goal is to create well-rounded students who can develop themselves to their chosen fields of study and to instill the students with correct attitudes towards education so that they are enthusiastic in their pursuit of knowledge and self-development.

To strive to be among the best, this first issue of the IJMBE is therefore instrumental for the most important academic growths to extend a high quality tradition in the education field to the world. The journal welcomes the submission of manuscripts that meet the general criteria of significance and scientific excellence, and will publish original articles in basic and applied research, case studies, critical reviews, surveys, opinions, commentaries and essays. It is hoped that this first issue will set a new benchmark in terms of academic publications. Through the support of our Editorial and Advisory Boards, I hope this journal could provide academic articles of the highest quality to all readers.



Dr. Rutchaneeporn Pookayaporn Phukkamarn
President, Sripatum University

Welcome Address from Dean, Sripatum University

It is appropriate to celebrate the continuity of an exciting and esteemed journal. The IJMBE will serve and provide a forum for exchange of ideas among business executives and academicians concerned with Management, Business, and Economics issues. With the rapid evolution of corporate business from international to global in recent years, general business has been one of the areas of greatest added complexity and concern for corporate managers. The IJMBE will be an academic journal combining academic inquiry and informed business practices. It will publish empirical, analytical, review, and survey articles, as well as case studies related to all areas of Management, Business, and Economics. A sentiment often expressed by practitioners is that academic research in general may not be addressing the most relevant questions in the real world.

It is fair to say that the IJMBE will publish high-quality applied-research papers. Nevertheless, studies that test important theoretical works and shed additional light on the issue with some business implications will also be solicited. Each submitted paper has been reviewed by several members of the IJMBE international editorial board and external referees. On the basis, we would like to thank all of them for their support with review process of submitted papers.

I cordially invite papers with theoretical research/conceptual work or applied research/applications on topics related to research, practice, and teaching in all subject areas of Management, Business, and Economics, or related subjects. I welcome paper submissions on the basis that the material has not been published elsewhere. The ultimate goal is to develop a journal that will appeal to both management and business practitioners. I expect the IJMBE to be an outstanding international forum for the exchange of ideas and results, and provide a baseline of further progress in the aforementioned areas.



Assoc. Prof. Dr. Vichit U-on
Dean, Graduate College of Management
Sripatum University

The Editors

Editor-In-Chief



Dr. Ungul Laptaned is an Assistant Professor in the Graduate College of Management, Sripatum University. He graduated with a Ph.D. in 2003 from the University of Nottingham, United Kingdom in the field of Manufacturing Engineering and Operations Management. Ungul has published over 60 proceedings and journal papers; for instances, Industrial Engineering Network, Asia Pacific Industrial Engineering and Management, International Association of Science and Technology for Development, Operations and Supply Chain Management, Intelligent Manufacturing System, Business and Information, etc. He served as a program chair and a steering committee for several domestic and international conferences. He was a journal editor of International Journal of Logistics and Transport, and Thai Researchers' Consortium of Value Chain Management and Logistics Journal, and has consulted for several public organizations and industrial firms on logistics and supply chain management such as Thailand Research Fund, Phitsanulok Province, Public Warehouse Organization, Amatanakorn Industrial Estate, Wyncoast Industrial Park, Iron and Steel Institute of Thailand, Chacheongsao Province, JWD Infologistics Co., Ltd., Kerry Distribution (Thailand) Co., Ltd., TKL Logistics and Supply Chain Co., Ltd., and Ministry of Transport (Thailand).

Associate Editor



Dr Ioannis Manikas holds a Bachelor in Agriculture and a Master of Science in the field of logistics from Cranfield University. He holds a PhD from the Department of Agricultural Economics in AUTH and his primary interest includes supply chain management, logistics and agribusiness management. Dr Manikas has conducted research for projects regarding supply chain modelling, development of IT solutions for agrifood supply chain management and traceability both in Greece and the UK. He has a wide experience in the elaboration of research proposals under FP6, FP7, and Eurostars-Eureka funding mechanisms; lifelong learning oriented programmes such as Leonardo; and Interregional development programmes such as Interreg III and Interreg IV. His work as a self employed project manager and consultant in the agrifood sector includes the design and development of regional operational programmes; analysis of regional needs and respective development policies focused on rural and food production; definition of funding areas and financing resources; definition of strategic goals for regional development and formulation of respective performance monitoring systems; and assessment (ex-ante, on-going, ex-post) of the implementation of EC and national funding mechanisms in national and regional levels.

Guest Editor



Dr. Gilbert Nartea is an Associate Professor in the Waikato Management School, University of Waikato, New Zealand. Dr. Nartea graduated a Master's Degree from New England and a Ph.D. from Illinois, USA. He is a senior lecturer in Finance. His teaching interests are in the area of investments, futures and options, and finance, futures and options. The area of research interests area asset pricing, investment management, decision-analysis and risk management, and microfinance and poverty alleviation. He has published several papers in such journals as of Property Investment and Finance, International Journal of Managerial Finance, Asian Journal of Business and Accounting, Australian Journal of Agricultural and Resource Economics, Pacific Rim Property Research Journal, Review of Applied Economics, Review of Development Cooperation, American Journal of Agricultural Economics, and Journal of the American Society of Farm Managers and Rural Appraisers.

Foreword

Welcome to the 1st issue of the 13th volume of International Journal of Management, Business, and Economics (IJMBE), the Editors received a number of papers from different countries such as China and Thailand. The received papers encompassed many areas of marketing, banking, economics, insurance and risk management, industrial and operation management, strategic management, and international and global business management. After the review process, a total of ten manuscripts were selected for publication.

The first article is conducted by *Dezhang Cheng and Qinshiyi Yan*, and is entitled “*The Influence of Cross-border Logistics Enterprises Managers’ Psychological Resilience on Corporate Resilience*”. This study investigates the influence of managers’ psychological resilience on enterprise resilience in China’s cross-border logistics sector, and examines the moderating role of strategic flexibility.

The second article is authored by *Mingrui Hu and Fangning Li*, and named as “*Research on the Weight Analysis of Influencing Factors in the Creation Process of Contemporary Chinese Flower and Bird Painting from the Perspective of Artistic Management*”. This study explores the role of art management in the creation process of contemporary Chinese flower and bird painting, addressing a gap in existing research.

Article number third is written by *Shijie Du*, and is entitled “*The Rational Upgrade of Dance Teaching in the Curriculum System for Talent Development in Film and Television Performance: The Case of Beijing Film Academy*”. This study investigates the dance teaching model at the Beijing Film Academy, focusing on its function in developing students’ physical expressiveness, stage presence, and narrative performance skills.

The fourth paper is examined by *Xing Zhang and Zhirui Zou*. Their paper is entitled “*An Analysis on the Inheritance and Development of Chinese Han and Tang Classical Dance Schools: Exploration and Verification Based on Mixed Research Methods*”. This study investigates the inheritance and sustainable development mechanisms of Han and Tang classical dance, a vital branch of Chinese classical dance.

In the fifth article, entitled “*Research on the Role Dilemma and Coping Strategies of College Counselors in the Psychological Crisis Intervention of College Students*” is conducted by *Yan Jiang*. This study investigates the dilemmas, theoretical foundations, and practical strategies of university counselors in psychological crisis intervention.

The sixth article is conducted by *Yanisa Yanatham, Wiyada Peerarattakun, and Terapat Chearapong*, and is entitled “*The Management of Health Events and Activities for Promoting Public Health Awareness*”. This study examined how the management of health events influences public health awareness in Bangkok, focusing on three key dimensions.

The seventh article is authored by *Yanisa Yanatham, Patchara Chatchaipannaporn, and Kritsada Wongwatthanakiad*, and is entitled “*Audience Attitudes Toward the Management of Artists’ Image on Online Media in Crisis Situations*”. This study investigates audience perceptions of artists’ crisis communication on online media, and examines how these perceptions influence trust and support intentions.

Article number eight is entitled “*The Academic Adaptation of International Students in China*”, and is examined by *Ye Zhang and Yaoming Gao*. This study compares learning adaptability among international students from different continents, and provides insights for improving education quality and promoting their academic growth.

In the ninth article, entitled “*Integration of Top Management Team Behavior and Corporate Strategic Flexibility from a Dynamic Perspective: Evidence from Chinese Enterprises*” conducted by *Zhao Lu*. This study aims to explore the impact of top management team behavior integration on corporate strategic flexibility from a dynamic perspective.

Last but not the least, the article entitled “*Research on the Logistics Efficiency Evaluation of Hunan Province Based on the DEA Model*”, is conducted by *Zhen Wang and Hong Yan*. This study evaluates the logistics efficiency of Hunan Province using a DEA-based input–output model at the prefecture level, providing empirical insights into regional disparities and key drivers of performance.

It is hoped that you will enjoy reading these articles and that they will generate responses and discussions that will help advance our knowledge of the field of Management, Business, and Economics. The Editors and the Editorial Board of the IJMBE would like to welcome your future submissions to make this journal your forum for sharing ideas and research work with all interested parties.

Ungul Laptaned
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The Influence of Cross-border Logistics Enterprises Managers' Psychological Resilience on Corporate Resilience

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Abstract

In today's volatile, uncertain, complex, and ambiguous (VUCA) environment, cross-border logistics enterprises face increasing operational disruptions caused by global crises such as the COVID-19 pandemic, trade conflicts, and geopolitical tensions. This study investigates the influence of managers' psychological resilience on enterprise resilience in China's cross-border logistics sector and examines the moderating role of strategic flexibility. Grounded in upper echelons theory, dynamic capability theory, and strategic flexibility theory, the research develops and tests a conceptual model explaining how managerial resilience contributes to organizational adaptability and sustainability. Data were collected from 263 managers of cross-border logistics enterprises through structured questionnaires and analyzed using SPSS 26.0 and AMOS 24.0. The results demonstrate that managers' psychological resilience, characterized by positive attitudes, adaptability, emotional control, and stress tolerance, has a significant positive impact on enterprise resilience. Moreover, strategic flexibility, comprising resource flexibility and coordination flexibility, significantly moderates this relationship, amplifying the beneficial effects of psychological resilience on organizational robustness and recovery. These findings highlight the dual mechanism through which psychological and strategic capabilities interact to strengthen enterprise resilience. The study contributes to the theoretical enrichment of resilience research by extending the focus from organizational-level to managerial-level factors and integrating multiple theoretical perspectives. Practically, it provides guidance for managers and policymakers on developing resilience through targeted training, strategic adaptability, and supportive institutional environments. By enhancing both psychological resilience and strategic flexibility, cross-border logistics enterprises can better navigate market uncertainties, improve crisis response, and achieve sustainable growth in an increasingly unpredictable global landscape.

Keywords: Psychological Resilience, Strategic Flexibility, Enterprise Resilience, Cross-Border Logistics, Dynamic Capability Theory

1. Introduction

1.1 Background and Importance of the Problem

In the VUCA era (Volatility, Uncertainty, Complexity, and Ambiguity), enterprises face numerous uncertainties in operation and management. Global crises such as the COVID-19 pandemic and the Russia-Ukraine war have severely disrupted supply chain systems, prompting business leaders to focus on enterprise resilience, the ability to rebound, recover, and continue to grow in the face of adversity. Additionally, trade policies such as the U.S. administration's tariff increases have caused global market instability and undermined the confidence of small and medium-sized business owners, especially those in export-oriented sectors. As key service providers in international trade, cross-border logistics enterprises have been significantly affected by these external shocks. The India-Pakistan conflict, for instance, disrupted the China-Pakistan and China-India cargo shipping routes, further intensifying uncertainty. Most cross-border logistics enterprises in China are small and medium-sized, offering limited product ranges, making them especially vulnerable to such disruptions. In this context, the psychological resilience of enterprise managers becomes a crucial determinant of how effectively organizations adapt and recover from crises.

According to upper echelons theory, the mindset of top managers directly shapes strategic decision-making under uncertainty. A positive and adaptive social mindset enables managers to make rational, responsible, and objective decisions, thereby strengthening the organization's resilience. Moreover, in dynamic environments, managers often face difficulties in resource acquisition and market competition. Those lacking resilience may develop risk-averse tendencies, weakening the firm's capacity to respond to change. Therefore, understanding how managerial psychological resilience influences enterprise resilience is vital, particularly for small and medium-sized cross-border logistics firms that operate amid global instability. Based on upper echelons theory, dynamic capability theory, and strategic flexibility theory, this study explores how managers' psychological resilience affects enterprise resilience, with strategic flexibility introduced as a moderating variable. A conceptual model will be constructed to explain the mechanism linking these factors.

1.2 Research Question

Given the complex and uncertain environment in which Chinese cross-border logistics enterprises operate, this study addresses the following key research questions:

- 1) How does the psychological resilience of managers influence the enterprise resilience of cross-border logistics firms?
- 2) What role does strategic flexibility play in moderating the relationship between managerial psychological resilience and enterprise resilience?
- 3) How can the integration of upper echelons theory, dynamic capability theory, and strategic flexibility theory help explain and enhance the resilience of cross-border logistics enterprises?

1.3 Research Objective

This research aims to address the gap in existing studies on the resilience of cross-border logistics enterprises by integrating the perspectives of upper echelons theory, dynamic capability theory, and strategic flexibility theory. The specific objectives are as follows:

1) To examine how managers' psychological resilience influences the enterprise resilience of cross-border logistics firms.

2) To analyze the moderating role of strategic flexibility in the relationship between managerial psychological resilience and enterprise resilience.

3) To develop a conceptual model of enterprise resilience based on upper echelons theory, dynamic capability theory, and strategic flexibility theory, thereby providing theoretical and practical guidance for enhancing the resilience of cross-border logistics enterprises.

2. Literature Review

2.1 Related Concepts and Theories

2.1.1 Psychological Resilience of Managers

Psychological resilience is an important personality trait that significantly influences managers' decision-making, performance, and their enterprises' resilience. Although there is no unified definition, scholars generally regard psychological resilience as the ability to recover from adversity and maintain psychological stability. Chadwick and Raver (2018) defined psychological resilience as an individual's capacity to recover from stressful experiences and sustain a stable psychological state, emphasizing that resilient managers can better utilize personal resources to adapt to market tensions. Similarly, Corner (2017) viewed it as an individual's ability to maintain emotional stability, mental health, and self-recovery after setbacks or significant losses. During the COVID-19 pandemic, empirical research on U.S. small and medium-sized enterprises found that entrepreneurs' psychological resilience enabled firms with limited financial strength to acquire more resources to withstand the crisis and improve survival rates (Chhatwani et al., 2022). In China, Wang (2021) described entrepreneurial psychological resilience as a mental tendency that enables entrepreneurs to confront challenges and achieve self-recovery. Qiao (2022) regarded it as a psychological state combining confidence in overcoming difficulties and the ability to recover from setbacks. Jing and Huang (2018) further asserted that leaders with high psychological resilience demonstrate a strong desire to overcome difficulties, respond proactively, and promote smooth organizational growth.

2.1.2 Enterprise Resilience

According to dynamic capability theory, enterprise resilience refers to the capability of an enterprise to cope with adverse conditions, maintain operational strength, and achieve sustainable development. Kantur and Iseri-Say (2015) defined it as an organization's ability to maintain its vitality and realize long-term growth under stress. Ma (2018) emphasized its role in helping enterprises survive, adapt, and even thrive in volatile and uncertain environments. Lengnick-Hall and Beck (2005) characterized enterprise resilience as a combination of cognitive, behavioral, and situational attributes that facilitate prompt responses to external changes. For China's cross-border logistics enterprises, most of which are small and medium-sized, the concept of resilience is best understood through the lens of dynamic capability theory, as it highlights adaptive capabilities that are crucial for survival amid global market instability.

2.1.3 Strategic Flexibility

Strategic flexibility is a vital organizational capability that enables firms to adapt, realign, and sustain growth under uncertainty. Under the framework of dynamic capability theory, Volberda (1998) defined strategic flexibility as the firm's ability to modify its strategic direction to cope with future uncertainties. It requires both rational allocation and dynamic coordination of resources. Wang (2015) viewed strategic flexibility as the process through which firms rapidly adjust internal and external resources to achieve environmental adaptability. Similarly, Jiang et al. (2022) regarded it as a dynamic ability to reconfigure strategies and resources to maintain competitive advantage. Sanchez (1995, 1997) divided strategic flexibility into two dimensions, resource flexibility and coordination flexibility. Resource flexibility emphasizes the range, cost, and speed of converting resources for various uses, while coordination flexibility refers to an enterprise's ability to reallocate and reorganize resources effectively to achieve strategic goals.

2.2 Literature Surveys

Research has shown that managers' psychological resilience is closely linked to enterprise resilience. Enterprises led by resilient managers are more capable of adapting to uncertainty, maintaining stability, and seizing opportunities in turbulent environments. Studies have emphasized that resilient managers demonstrate confidence, adaptability, and persistence, which enhance the organization's ability to recover from external shocks (Chhatwani et al., 2022; Jing & Huang, 2018). At the enterprise level, resilience has been associated with firms' ability to anticipate and respond to risks, reorganize resources, and sustain performance under pressure (Kantur & Iseri-Say, 2015). In China's cross-border logistics sector, where market volatility and geopolitical risks are high, enterprise resilience is essential for survival and competitiveness. Meanwhile, strategic flexibility has been identified as a moderating factor that strengthens the positive impact of managerial resilience on enterprise resilience. Firms with greater strategic flexibility can dynamically adjust resource allocation and operational strategies in response to environmental shifts (Volberda, 1998; Sanchez, 1995; Wang, 2015). By leveraging both resource flexibility and coordination flexibility, enterprises can reduce the negative impact of uncertainty and enhance their adaptive capacity. These findings collectively indicate that managers' psychological resilience is a critical antecedent of enterprise resilience, and that strategic flexibility acts as an enabling mechanism that magnifies this relationship.

2.3 Conceptual Framework

Based on the review of related theories and prior studies, this research integrates upper echelons theory, dynamic capability theory, and strategic flexibility theory to construct a conceptual framework.

Upper echelons theory suggests that managerial traits, such as psychological resilience, affect organizational outcomes, including resilience.

Dynamic capability theory emphasizes the organization's ability to adapt, integrate, and reconfigure resources to address environmental changes.

Strategic flexibility theory highlights the firm's adaptive resource allocation and reconfiguration capabilities as key to sustaining competitiveness in volatile markets.

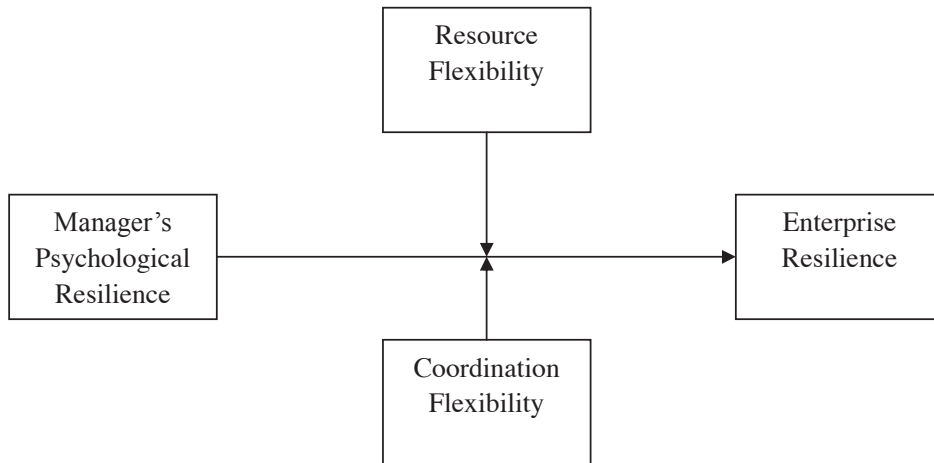


Figure 1 Conceptual Framework

Accordingly, the conceptual framework proposes that managers' psychological resilience serves as an internal driver of enterprise resilience, while strategic flexibility, comprising resource flexibility and coordination flexibility, acts as a moderating factor that strengthens this relationship.

2.4 Research Hypothesis

Based on the above theoretical analysis and literature synthesis, the following hypotheses are proposed:

H1: Managers' psychological resilience positively influences the enterprise resilience of cross-border logistics enterprises.

H2: Strategic flexibility positively moderates the relationship between managers' psychological resilience and enterprise resilience of cross-border logistics enterprises.

H3: Resource flexibility positively moderates the relationship between managers' psychological resilience and enterprise resilience of cross-border logistics enterprises.

H4: Coordination flexibility positively moderates the relationship between managers' psychological resilience and enterprise resilience of cross-border logistics enterprises.

3. Research Methodology

3.1 Research Design

This study adopts a quantitative research design to empirically investigate the relationship between managers' psychological resilience and enterprise resilience, as well as the moderating effect of strategic flexibility among cross-border logistics enterprises in China. The research is based on the theoretical foundations of the upper echelons theory, dynamic capability theory, and strategic flexibility theory. A structured survey questionnaire was employed to collect data from managers of cross-border logistics firms engaged in import and export transportation. The study was conducted in the context of the post-COVID-19 pandemic period, during which the cross-border logistics industry was significantly affected by global disruptions, capacity shortages, and heightened operational risks.

This environment provided an appropriate empirical setting to examine how managerial psychological resilience and strategic flexibility contribute to enterprise resilience.

3.2 Population and Sample

The target population for this study comprised managers of cross-border logistics enterprises in China, specifically those engaged in international transportation and intermodal logistics operations. These included firms involved in air, sea, and rail freight forwarding, as well as companies that outsource warehousing and transportation to other logistics providers. The sample focused primarily on private enterprises, as they represent the majority of small and medium-sized cross-border logistics firms in China and are most vulnerable to external shocks such as wars, customs supervision, and transportation constraints. The respondents included general managers, deputy general managers, and senior business managers directly responsible for company operations and decision-making. A total of 300 managers were invited to participate in the survey. After excluding incomplete or invalid responses and filtering out participants with less than five years of managerial experience, the final valid sample consisted of 263 managers. This ensured the robustness of data for cross-level analysis and enhanced the representativeness of the findings.

3.3 Research Instruments

The research employed a structured questionnaire divided into two main sections:

- 1) Demographic and organizational information, including managerial position, years of experience, company size, and business type.
- 2) Measurement scales for key constructs, psychological resilience, enterprise resilience, and strategic flexibility.

All measurement indicators were adapted from established studies to ensure validity and theoretical consistency (see Table 2). As these scales were not originally designed for the cross-border logistics sector, the wording was modified to fit the specific industry context.

Each item was rated on a five-point Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. Previous research has shown that factors such as education level, firm age, and annual revenue may influence managerial psychological resilience. However, due to the exceptional increase in logistics costs and revenues during the COVID-19 period, annual revenue was not used as a control variable in this study.

3.4 Data Collection

Data were collected over a three-month period through both online and offline survey distribution methods. The questionnaires were distributed to participating enterprises and coded to match responses with corresponding organizations. The research team followed up with respondents to ensure completion and data accuracy. Of the 300 distributed questionnaires, all were returned, resulting in a 100% response rate. After removing incomplete or invalid responses and ensuring experience validity, 263 valid samples were retained for final analysis. To maintain confidentiality and data reliability, each enterprise and participant was assigned a code number. Only aggregated results were reported to protect respondent anonymity.

3.5 Statistics Used for Data Analysis

The collected data were analyzed using SPSS 26.0 and AMOS 24.0 software packages. The statistical procedures included both descriptive and inferential analyses to ensure the robustness of the findings. Descriptive statistics were first employed to summarize demographic data and basic sample characteristics. Reliability analysis was conducted using Cronbach's alpha to assess the internal consistency of all constructs, while validity analysis, including Confirmatory Factor Analysis (CFA), was performed to examine the measurement model's convergent and discriminant validity. Correlation analysis was then used to explore the relationships among variables, followed by Structural Equation Modeling (SEM) to test the hypothesized relationships between managers' psychological resilience, strategic flexibility, and enterprise resilience. Furthermore, moderation analysis was applied to evaluate the moderating effects of strategic flexibility, specifically resource flexibility and coordination flexibility, on the relationship between psychological resilience and enterprise resilience. Collectively, these statistical techniques provided comprehensive insights into the proposed conceptual framework and offered empirical evidence to support hypothesis testing.

4. Data Analysis and Findings

4.1 Introduction

This chapter presents the data analysis and findings of the study, which investigates the influence of entrepreneurial psychological resilience on enterprise resilience among cross-border logistics enterprises, with the moderating role of strategic flexibility. The quantitative data collected from 263 managers of cross-border logistics companies were analyzed using statistical techniques to verify the proposed hypotheses and theoretical framework. The analysis begins with the descriptive statistics of the respondents' demographic characteristics, which provide an overview of the sample composition. This is followed by the aggregation appropriateness test, describing the measurement instruments used for each construct and their reliability and validity. Subsequently, the empirical analysis section includes confirmatory factor analysis (CFA), correlation analysis, and hypothesis testing through hierarchical regression to assess both the main and moderating effects. The final section summarizes the main findings derived from the empirical results. Overall, this chapter aims to provide a comprehensive understanding of how entrepreneurial psychological resilience contributes to enterprise resilience and how strategic flexibility strengthens this relationship within the context of cross-border logistics enterprises.

4.2 Data Analysis of the Quantitative Data

4.2.1 Descriptive Statistics

Table 1 summarizes the demographic characteristics of 263 managers from cross-border logistics enterprises. Most respondents were male (69.20%) and aged between 40–49 years (46.01%). The majority held a bachelor's degree or lower (63.22%), and most companies had been operating for 5–10 years (42.59%). In terms of annual revenue, 41.44% reported earnings of CNY 30 million or below, indicating that the sample primarily consisted of managers from small to medium-sized, well-established enterprises.

Table 1 Descriptive Statistics of Samples

Characteristics	Item	Frequency	Percentage
Gender	Male	182	69.20
	Female	81	30.80
Age	30-39	60	22.81
	40-49	121	46.01
	≥ 50	82	31.18
Level of Education	≤ Bachelor	204	63.22
	Master	49	20.43
	> Master	10	16.35
Duration	5-10 Years	112	42.59
	10-15 Years	91	34.60
	> 15 Years	60	22.81
Annual Revenue	≤CNY30 Million	109	41.44
	CNY30 Million ≤ Contract Amount < CNY50 Million	98	37.26
	> CNY50 Million	56	21.30

4.2.2 Aggregation Appropriateness Test

Entrepreneurial Psychological Resilience

The measurement of this variable is mainly borrowed from the initial scale of entrepreneurial psychological resilience developed by Fatoki(2018), and the meter of each dimension design of each dimension is integrated. This volume table has a total of 10 questions, which are simplified from the scale of 25 questions designed by Connor and Dvidson(2003), including adaptive capacity, positive attitude, ability to work under pressure and emotions control to measure the entrepreneurial psychological resilience of the cross-border logistics enterprise managers.

Strategic Flexibility

The measurement of this variable is mainly borrowed from the strategic flexibility model developed by Sanchez(1995) and Su(2008) et al, and the meter of each dimension design of each dimension is integrated. This volume table has a total of 7 questions, 3 for resource flexibility and 4 for coordination flexibility, including conversion cost, conversion time, quick response, and resources usage total 7dimensions, to measure the strategic flexibility of the strategic flexibility model.

Enterprise resilience

The measurement of this variable mainly draws on the enterprise resilience model developed by Duchek (2020). There are 4 questions in this scale, including resources integration, risk discernment, and future development.

Participants were required to answer each question on a scale ranging from 1 to 5 (1, strongly disagree, 5, strongly agree).

4.2.3 Empirical Analysis

Reliability and Validity Test

In terms of content validity, the measurement indicators of various variables in this study have theoretical basis. According to the mature tables used by scholars in the past, a certain revision of the project situation is combined with the project situation. The wording of the sentence is modified, so it can be considered to have good content validity.

Confirmatory factor analysis was conducted to test the measurement validity and reliability in this study. According to the results shown in Table 2, most indicators have factor loadings greater than 0.5. All CR values exceeded the threshold of 0.8, all AVE values exceeded the standard 0.5, and all Cronbach's α values were higher than 0.6. These results indicate the satisfactory reliability and structural validity of all constructs .

Furthermore, the square roots of the AVEs for the individual level variables fall within the range of 0.582 to 0.843. Notably, all these values exceed the correlation coefficient observed between the constructs (Table 3), which means a guarantee of discriminant validity.

Table 2 Reliability and Validity Tests

Variable	Indicator	Factor Loading	AVE	CR	Cronbach's α
Entrepreneurial Psychological Resilience	EPR1	0.694	0.688	0.786	0.881
	EPR2	0.681			
	EPR3	0.708			
	EPR4	0.671			
	EPR5	0.764			
	EPR6	0.605			
	EPR7	0.673			
	EPR8	0.599			
	EPR9	0.676			
	EPR10	0.613			
Resources Flexibility	FE1	0.675	0.732	0.825	0.654
	FE2	0.726			
	FE3	0.606			
Coordination Flexibility	CF1	0.611	0.739	0.861	0.701
	CF2	0.610			
	CF3	0.733			
	CF4	0.713			
Corporate resilience	CR1	0.932	0.807	0.916	0.834
	CR2	0.872			
	CR3	0.883			
	CR4	0.903			

Note: FL, factor loading; AVE, average variance extracted; CR, composite reliability; α , Cronbach's α . All factor loadings are significant at $\alpha < 0.001$.

Table 3 Correlation Analysis of the Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
EPR1	0.737																				
EPR2	0.370	0.737																			
EPR3	0.441	0.432	0.957																		
EPR4	0.494	0.483	0.577 ^{***}	0.604																	
EPR5	0.337	0.330 [*]	0.394 ^{**}	0.441	0.840																
EPR6	0.334 ^{***}	0.327 ^{***}	0.390	0.437 ^{***}	0.298	0.858															
EPR7	0.336 ^{***}	0.329 ^{***}	0.393 ^{***}	0.440 ^{***}	0.300	0.297 [*]															
EPR8	0.370 ^{***}	0.0362 [*]	0.432	0.483	0.330	0.327 [*]	0.924														
EPR9	0.391 ^{***}	0.382	0.456	0.511 [*]	0.349 [*]	0.345 [*]	0.348 [*]	0.382	0.634												
EPR10	0.284	0.278	0.331 ^{***}	0.371	0.253 [*]	0.251	0.253	0.277	0.293	0.638											
RF1	0.091 [*]	0.089	0.106 [*]	0.119	0.081 [*]	0.081 [*]	0.181 [*]	0.089	0.094 [*]	0.068 [*]	0.544										
RF2	0.175	0.171	0.205 [*]	0.229	0.156 [*]	0.155 [*]	0.156 [*]	0.171	0.181 [*]	0.131 [*]	0.178	0.600									
RF3	0.042	0.041 [*]	0.049	0.055 ^{***}	0.038	0.037	0.037	0.041	0.043 [*]	0.032	0.403	0.082	0.622								
CF1	0.141 [*]	0.138	0.165	0.184	0.126	0.125 [*]	0.126 [*]	0.138	0.146	0.106 [*]	0.260 [*]	0.499	0.120	0.600							
CF2	0.085 ^{***}	0.083 [*]	0.099	0.111	0.076 [*]	0.075	0.075 [*]	0.083	0.087 [*]	0.063	0.156	0.300	0.072	0.254 [*]	0.558						
CF3	0.074 [*]	0.073	0.087	0.097 [*]	0.067	0.066 [*]	0.066	0.073	0.077 [*]	0.056 [*]	0.137	0.264	0.063 [*]	0.223	0.134	0.586					
CF4	0.073	0.071	0.085	0.095	0.065 [*]	0.064 [*]	0.065	0.071	0.075 [*]	0.055	0.134	0.258 [*]	0.062	0.218	0.131 [*]	0.115	0.554				
CR1	0.109	0.106	0.127	0.142	0.097 [*]	0.096 [*]	0.097	0.106	0.112 [*]	0.082	0.051 [*]	0.098	0.024 [*]	0.093	0.056	0.049	0.048 [*]	0.645			
CR2	0.055 ^{***}	0.054	0.065	0.072	0.049 [*]	0.049	0.049 [*]	0.054	0.057 [*]	0.042 [*]	0.026 [*]	0.050	0.012 [*]	0.047	0.028	0.025 [*]	0.024	0.010 [*]	0.521		
CR3	0.073 [*]	0.072 [*]	0.086 ^{***}	0.096 [*]	0.066 [*]	0.065 [*]	0.065	0.072 [*]	0.076 [*]	0.055 [*]	0.034	0.066	0.016 [*]	0.063	0.038 [*]	0.033 [*]	0.032	0.013	0.007	0.764	
CR4	0.008	0.008 [*]	0.009 ^{***}	0.010 ^{***}	0.007 [*]	0.007 [*]	0.007	0.008 [*]	0.008 [*]	0.006 [*]	0.004 [*]	0.007	0.002	0.007 [*]	0.004	0.004 [*]	0.003 [*]	0.001	0.001 [*]	0.001 [*]	0.551

Note: * * * p<0.001, * * p<0.01, * p<0.05; bold numbers are AVEs' square roots.

4.2.4 Hypothesis Test

Main Effect

This study uses the hierarchical regression method to test the assumptions proposed. As a result, it is shown in Table 4. It is shown in model 2 that EPR1 exhibits a positive influence on enterprise resilience ($\beta=0.302$, $p<0.001$). EPR2 exhibits a positive influence on enterprise resilience ($\beta=0.026$, $p<0.001$). EPR3 exhibits a positive influence on enterprise resilience ($\beta=0.151$, $p<0.01$). EPR4 exhibits a positive influence on enterprise resilience ($\beta=0.229$, $p<0.001$). EPR5 exhibits a positive influence on enterprise resilience ($\beta=0.238$, $p<0.001$). EPR6 exhibits a positive influence on enterprise resilience ($\beta=0.196$, $p<0.05$). EPR7 exhibits a positive influence on enterprise resilience ($\beta=0.194$, $p<0.01$). EPR8 exhibits a positive influence on enterprise resilience ($\beta=0.197$, $p<0.001$). EPR9 exhibits a positive influence on enterprise resilience ($\beta=0.247$, $p<0.001$). EPR10 exhibits a positive influence on enterprise resilience ($\beta=0.248$, $p<0.001$). H1 is supported.

Table 4 Regression Analysis Results of Main Effect

Variable	Enterprise Resilience										
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10	Model 11
Level of Education	0.063***	0.042***	0.027**	0.039**	0.002*	0.020**	0.021**	0.010***	0.016**	0.008**	0.020***
Duration	0.024***	0.017***	0.025***	0.012***	0.010**	0.022**	0.011*	0.011**	0.009***	0.032**	0.045***
Annual Revenue	0.071***	0.068***	0.054**	0.074**	0.042**	0.054**	0.071*	0.064**	0.069**	0.070*	0.081**
EPR1		0.095***									
EPR2			0.026***								
EPR3				0.151**							
EPR4					0.229***						
EPR5						0.238***					
EPR6							0.196*				
EPR7								0.194**			
EPR8									0.197***		
EPR9										0.247***	
EPR10											0.248***
R 2	0.008	0.017	0.049	0.031	0.056	0.136	0.045	0.043	0.045	0.064	0.067
Adjusted R 2	-0.003	0.002	0.035	0.016	0.042	0.116	0.030	0.029	0.030	0.050	0.053
△ R 2	0.008	0.009	0.041	0.022	0.048	0.036	0.037	0.035	0.036	0.056	0.059
F	0.738***	1.118***	3.358***	2.040***	3.843***	4.356***	3.040***	2.927***	3.027**	4.438*	4.635***

Moderating Effect

This study focuses on the moderating effect analysis. As indicated in Table 5, the interaction term of entrepreneurial psychological resilience X resources flexibility(Model4, $\beta=0.198$, $p<0.001$) shows a significant mediating effect on enterprise resilience. H3 is supported.

In Table 5, the interaction term of entrepreneurial psychological resilience X coordination flexibility(Model6, $\beta=0.192$, $p<0.001$) shows a significant mediating effect on enterprise resilience. H4 is supported. Hence, H2 passes the test.

Table 5 Regression Analysis Results of Moderating Effect

Variable	Enterprise Resilience		Enterprise Resilience			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Level of Education	0.063***	0.034***	0.035**	0.047**	0.039*	0.050**
Duration	0.024***	0.010***	0.003***	0.003***	0.002**	0.003**
Annual Revenue	0.071***	0.057***	0.059**	0.057**	0.052**	0.055**
Entrepreneurial Psychological Resilience (EPR)		0.302***	0.265***	0.266***	0.266***	0.255***
Resources Flexibility (RF)			0.116**	0.145**		
Coordination Flexibility (CF)					0.107*	0.129**
EPR*RF				0.198***		
EPR*CF						0.192***
R ²	0.008	0.090	0.102	0.141	0.100	0.136
Adjusted R ²	-0.003	0.076	0.085	0.120	0.083	0.116
Δ R ²	0.008	0.082	0.094	0.038	0.092	0.036
F	0.738**	6.399***	5.859***	6.977***	5.720***	6.733***

4.3 Summary of the Results

This study conducts empirical research on the influence of enterprise resilience through the influence of cross-border logistics enterprise managers' entrepreneurial psychological resilience, and obtains the following results:

First of all, entrepreneurial psychological resilience has significantly positive influence on enterprise resilience. From the four dimensions of the entrepreneurial psychological resilience, we can see that all the adaptive capacity, positive attitude, ability to work under pressure and emotions control have impact on enterprise resilience, and the ability to work under pressure is particularly significant. This is mainly because, compared to other dimensions, the ability to work under pressure is mainly manifested as a manager's capacity to cope with work pressure. It is to measure if the managers are tough enough to achieve organizational goals. It is an important factors in managers' psychological resilience. It will be affected by other dimensions and affect enterprise resilience.

Secondly, resources flexibility has a significant positive moderate impact on the enterprise resilience in cross-border logistics companies. In the case of managers' level of education, corporate

duration and annual revenue as the control variables, the entrepreneurial psychological resilience of the enterprise managers will affect their enterprise resilience to a certain extent, and verify that the view of entrepreneurial psychological resilience will be promoting the level of enterprise resilience. Specifically speaking, resources flexibility of company will gradually affect managers' psychological resilience, and the component of resources flexibility and managers' psychological resilience will also affect the resilience of the enterprise. Studies have shown that the entrepreneurial psychological resilience of cross-border logistics enterprise managers can establish affect the view of resources flexibility, which not only actively explore the external resources, but also promote the employees to treat resources flexibility as an important vocational ability. To strengthen the resolution and motivation of employees, thereby enhancing resources flexibility of enterprises, then more able to cope with external uncertainty, and improve the level of enterprise resilience. On the other hand, the process of resources flexibility is also the way to improve employees' professionalism. Therefore, the stronger the awareness of resources flexibility, the stronger the managers' entrepreneurial psychological resilience, to achieve the improvement of the resilience of the enterprise.

Last but not least, coordination flexibility has a significant positive moderate impact on enterprise resilience. In the case of managers' level of education, corporate duration and annual revenue as the control variables, the coordination flexibility of the enterprise will affect their enterprise resilience in the market environment to a certain extent, and verify that the view of coordination flexibility will be promoting the level of enterprise resilience. Studies have shown that coordination flexibility usually means that through interaction in open-minded social network, participants who frequently coordinate with external resources owners can better make full use of external resources, and form stronger shield of company to resist risks, then improve the level of enterprise resilience. Therefore, cross-border logistics enterprises should also actively enhance the level of coordination flexibility, thereby improving enterprise resilience.

5. Conclusion, Discussion, and Recommendation

5.1 Conclusion

The findings of this study make significant theoretical and practical contributions to the understanding of how managers' psychological resilience and strategic flexibility influence enterprise resilience in cross-border logistics enterprises. First, the study reveals the internal mechanism through which entrepreneurial psychological resilience affects enterprise resilience. All dimensions of psychological resilience demonstrated a significant positive influence, enriching the existing literature on managerial psychology and expanding the theoretical foundation of enterprise resilience research. Second, the study highlights that managers' positive attitudes, adaptability to environmental changes, ability to work under pressure, and emotional control significantly affect the resilience of their organizations. When managers possess strong psychological resilience, enterprises are better able to absorb external resources, coordinate them effectively, and mitigate market uncertainties. This capability not only enhances internal coordination but also encourages employees to adopt a positive problem-solving attitude, thereby strengthening organizational resilience. Finally, the results confirm that strategic flexibility plays a significant moderating role in enhancing enterprise resilience. Firms with greater resource flexibility, faster risk response mechanisms, and more effective coordination systems are better equipped to adapt to volatile market environments. By leveraging managerial resilience and strategic flexibility, cross-border logistics enterprises can further strengthen their ability to cope with uncertainty and ensure sustainable development.

5.2 Discussion

The results of this research deepen the theoretical understanding of enterprise resilience by integrating upper echelons theory, dynamic capability theory, and strategic flexibility theory. The findings indicate that the psychological characteristics of managers are crucial determinants of enterprise-level resilience. Managers with strong psychological resilience not only maintain optimism in adversity but also foster a resilient organizational culture that supports adaptive learning and resource reconfiguration. From an organizational behavior perspective, psychological resilience enhances a manager's decision-making quality under uncertainty, leading to more effective responses to crises and changes in the global logistics environment. This aligns with dynamic capability theory, which emphasizes the ability to sense opportunities, seize resources, and transform strategies in response to environmental turbulence. Moreover, strategic flexibility was found to significantly strengthen the relationship between psychological resilience and enterprise resilience. Resource flexibility and coordination flexibility enable enterprises to rapidly reallocate assets, switch suppliers, and adjust operations in response to external shocks. This dynamic adaptability ensures continuity and competitiveness in a fluctuating market, confirming that strategic flexibility is both a protective and enabling factor for resilient enterprises. Overall, the interplay between managerial psychological resilience and strategic flexibility forms a dual mechanism that promotes long-term stability and competitiveness in cross-border logistics enterprises.

5.3 Recommendation

This study provides several practical recommendations for both enterprise managers and government policymakers. For enterprises, managers play a vital role as decision-makers and leaders whose psychological resilience directly influences strategic decisions and organizational adaptability. Therefore, private enterprises should integrate psychological resilience assessment into executive recruitment and evaluation processes. Regular resilience training programs should be implemented to strengthen managers' emotional stability, adaptability, and stress management. Enterprises should also conduct crisis simulation exercises to prepare for potential disruptions, improve stress resistance, and build confidence in overcoming adverse conditions. Additionally, firms should provide ongoing professional training in finance, law, and operations to enhance the competence and flexibility of management teams. Encouraging the effective use of local financial resources and government incentives can further alleviate financial constraints and support sustainable operations. In times of crisis, entrepreneurs should leverage psychological resilience to make timely adjustments in resource allocation, explore new market opportunities, and transform challenges into pathways for growth. For government agencies, it is essential to establish a comprehensive and transparent support platform for private enterprises. This includes improving policy communication mechanisms, ensuring efficient feedback systems, and designing targeted support programs to address enterprise challenges. Governments should also develop psychological support systems for entrepreneurs through partnerships with professional counseling institutions, providing online consultation, training, and peer-exchange activities to alleviate mental stress. Moreover, policymakers should focus on creating a fair and competitive market environment by ensuring equal access to resources, fair supervision, and protection of intellectual property rights. Strengthening legal frameworks to safeguard entrepreneurs' rights, property, and privacy will further enhance their confidence in business operations. Such supportive measures not only promote entrepreneurial well-being but also enhance the overall resilience and sustainability of the cross-border logistics sector.

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Research on the Weight Analysis of Influencing Factors in the Creation Process of Contemporary Chinese Flower and Bird Painting from the Perspective of Artistic Management

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Abstract

This study explores the role of art management in the creation process of contemporary Chinese flower and bird painting, addressing a gap in existing research that predominantly focuses on artistic style, technical evolution, and market valuation. By integrating qualitative and quantitative approaches, including semi-structured interviews, grounded theory analysis, questionnaires, and Analytic Hierarchy Process (AHP), the study identifies and quantifies the key factors influencing artistic creation. The findings reveal five core dimensions: environmental factors, inspiration factors, art management factors, market factors, and development trend factors. Among these, inspiration and art management factors are identified as the most influential, highlighting the critical role of creative motivation and managerial support in shaping artistic outcomes. Market factors and development trend factors provide essential external guidance, while environmental factors offer foundational support. The study demonstrates that artistic creation is a dynamic and systemic process, wherein art management serves as a bridge connecting creativity, market mechanisms, and technological and cultural contexts. It further emphasizes the synergistic relationship between market orientation and managerial guidance, ensuring that artworks maintain creative authenticity while meeting audience demands. Development trend factors, such as technique innovation, thematic expansion, and cultural exchange, are shown to drive artistic innovation and internationalization. Based on these insights, the study proposes actionable strategies for optimizing creative environments, inspiring artistic innovation, strengthening art management systems, expanding market channels, and promoting global exchange. The research contributes both theoretical and practical knowledge by providing a comprehensive framework for understanding the interaction of internal and external factors in contemporary Chinese flower and bird painting creation, supporting sustainable inheritance, innovation, and global dissemination of traditional Chinese art.

Keywords: Chinese Flower, Bird Painting, Art Management, Creative Process, Artistic Innovation

1. Introduction

1.1 Background and Importance of the Problem

Art management, as an interdisciplinary field, plays a crucial role in art creation, exhibition planning, marketing, and legal policy. Among the various genres of Chinese traditional painting, Chinese flower and bird painting holds an important position due to its long history, aesthetic significance, and profound cultural heritage. However, with the advancement of globalization and cultural diversification, the creative environment of flower and bird painting has undergone remarkable transformation. The creation of this art form is now influenced not only by traditional artistic techniques and philosophical concepts but also by modern social and cultural dynamics, art market mechanisms, and technological innovations. In recent years, China's growing emphasis on traditional culture and the expansion of the art market have created new opportunities for the development of flower and bird painting. Nevertheless, the role of art management in shaping and supporting this creative process remains insufficiently explored. Current studies predominantly focus on artistic style, technical evolution, and market valuation, while systematic analyses from the perspective of art management are scarce. The lack of such research limits the understanding of how managerial, cultural, and technological factors interact to influence artistic production. Thus, there is a pressing need to investigate these interactions comprehensively to ensure the sustainable inheritance and innovation of Chinese flower and bird painting in contemporary society.

1.2 Research Question

Given the above context, this study seeks to address the following core question of what are the key influencing factors in the creation management of contemporary Chinese flower and bird painting, and what are their relative weights in shaping the final artistic outcome?

1.3 Research Objective

The main objective of this study is to analyze and quantify the influencing factors in the creation process of contemporary Chinese flower and bird painting from the perspective of art management. Specifically, this study aims to:

- 1) Identify the major factors that influence the management and creation of flower and bird paintings, including artistic philosophy, market dynamics, cultural policies, social and cultural contexts, and technological innovation.
- 2) Analyze the interrelationships and relative importance (weights) of these factors using a scientific analytical framework.
- 3) Provide actionable insights and decision support for art managers, creative guidance for artists, and strategic references for policymakers.

Through this analysis, the study intends to contribute new theoretical understanding and practical pathways for the inheritance, innovation, and sustainable development of Chinese flower and bird painting art in the modern era.

2. Literature Review

2.1 Related Concepts and Theories

Art management is an interdisciplinary field that integrates art, management, economics, and sociology. It aims to promote artistic creation and the sustainable development of the art industry through systematic and scientific management methods. According to Tagawa Ryu (2021), art management refers to human behavior in managing artistic activities, utilizing both artistic and managerial wisdom to define goals and systematically plan, organize, implement, and control artistic processes. While art management and artistic creativity are closely related, Tagawa Ryu (2009) highlights their differences, art management has matured as a discipline emphasizing operational and strategic aspects, whereas artistic creativity remains an evolving field focused on the imaginative and expressive dimensions of art. At its core, art management seeks to balance art and commerce, enabling artworks to reach broader audiences while safeguarding artists' interests. Moreover, Sakurai Rika (2020) points out that art management extends beyond economic concerns, it facilitates understanding and empathy among people from diverse backgrounds. Through real-world cases, she demonstrates how art projects foster community participation and dialogue, positioning artistic creation as a socially interactive process wherein public engagement and feedback act as critical sources of inspiration and innovation.

2.2 Literature Surveys

2.2.1 *The Artistic Characteristics and Historical Evolution of Contemporary Chinese Flower and Bird Painting*

Contemporary Chinese flower and bird painting has evolved through the fusion of traditional aesthetics and modern influences. While it retains the spiritual connotations and technical foundations of classical painting, it increasingly incorporates Western artistic concepts and modern color expressions. Li Chao (2011) emphasizes that contemporary flower and bird painting employs a more diverse color palette to express individual emotion and artistic pursuit. Similarly, Wang Xiaolu (2016) underscores the necessity of harmonizing traditional techniques with modern stylistic elements, highlighting the "color language" as a key element in defining modernity within traditional frameworks.

Paul Gladston (2014) further explores the similarities and differences between traditional and contemporary flower and bird painting in terms of style, technique, and thematic expression, interpreting the evolution of this art form as a reflection of broader social and cultural transformations in China. Chen Feng (2016) elaborates on the importance of preserving cultural heritage while integrating contemporary elements, advocating for field sketching and emphasizing the creation of works imbued with a sense of modern relevance.

2.2.2 *Research on the Influencing Factors of Artistic Creativity*

Artistic creation is a multifaceted process shaped by numerous internal and external factors. Chuan Youqizi (2002) notes that the artistic environment, including resources, policy support, and societal atmosphere, significantly affects artists' creative potential. Gong Huan (2013) analyzes the conceptualization, transformation, and execution stages in painting creation, identifying life experience, perception, imagination, and technical expression as essential components of creativity.

Chen Mi (2017) emphasizes the importance of innovative consciousness, identifying factors such as thematic conception, subject matter selection, and color coordination as critical to the painting process. Yu Yue (2023) further explores the mechanisms influencing painting creation, proposing strategies to enhance creative capabilities.

Despite these contributions, existing research on flower and bird painting remains limited in two aspects: (1) it predominantly emphasizes art history, technique, and aesthetic analysis, lacking a systematic examination from the perspective of art management; and (2) it has not sufficiently explored how art management principles can be applied to foster innovation, strengthen artistic value, and expand the influence of flower and bird painting in contemporary contexts.

2.3 Conceptual Framework

Drawing upon the reviewed literature, this study constructs a conceptual framework based on the perspective of art management in the creation of contemporary Chinese flower and bird painting. The framework posits that the creative process is influenced by multiple interrelated factors that can be categorized into five primary dimensions:

Artistic Creativity – encompassing the artist’s aesthetic philosophy, imagination, and technical skill.

Market Dynamics – including demand for artworks, audience preferences, and commercial value orientation.

Cultural Policy Support – involving government initiatives, funding programs, and institutional support for traditional arts.

Socio-Cultural Environment – reflecting societal values, cultural identity, and the influence of modernization.

Technological Innovation – referring to digital tools, materials, and platforms that enable new forms of artistic expression and dissemination.

These factors collectively interact to influence the management and outcome of flower and bird painting creation, forming a dynamic system where each component both affects and is affected by others. The conceptual model thus provides a foundation for empirical analysis and weight assessment of influencing factors.

2.4 Research Hypothesis

Based on the conceptual framework and literature synthesis, the following hypotheses are proposed:

H1: Artistic creativity has a significant positive influence on the quality and innovation of contemporary Chinese flower and bird painting creation.

H2: Market dynamics significantly affect the management decisions and creative direction of flower and bird painting.

H3: Cultural policy support positively moderates the relationship between artistic creativity and creative output.

H4: The socio-cultural environment significantly influences the thematic content and expressive style of flower and bird painting.

H5: Technological innovation enhances the efficiency, diversity, and dissemination of flower and bird painting creation.

Collectively, these hypotheses aim to empirically test the relationships among key factors influencing the creation of contemporary Chinese flower and bird painting, offering a systematic foundation for subsequent analysis and weight evaluation.

3. Research Methodology

3.1 Research Design

This study adopts a mixed-methods research design, combining qualitative and quantitative approaches to achieve a comprehensive understanding of the influencing factors in the creation of contemporary Chinese flower and bird painting. The qualitative phase utilizes semi-structured interviews and grounded theory analysis to explore and extract key influencing factors, while the quantitative phase employs questionnaire surveys to validate these factors and assess their relative importance. The mixed-methods approach enables the researcher to integrate empirical insights derived from interviews with statistical evidence from large-scale survey data, ensuring both the depth and generalizability of findings. This design allows for triangulation of data sources, enhancing the credibility, validity, and practical applicability of the results.

3.2 Population and Sample

The study's population includes Chinese flower and bird painting creators, art managers, curators, gallery agents, and art educators engaged in the contemporary art field.

In the qualitative phase, a purposive sampling strategy was used to select 17 participants, including university teachers, graduate students, gallery agents, and museum managers, who possess extensive experience or professional involvement in flower and bird painting. The interviews were conducted between September and November 2024, focusing on the practical, managerial, and creative dimensions of contemporary flower and bird painting creation.

In the quantitative phase, the study targets a wider sample of flower and bird painting creators and art managers nationwide. Questionnaires are distributed through WeChat, QQ, Weibo, and other social media channels using the Wenjuanxing online platform, ensuring broad coverage across different regions and professional backgrounds.

3.3 Research Instruments

1) Semi-Structured Interview

A semi-structured interview guide was developed based on preliminary literature review and expert consultation. This method allows flexibility for in-depth exploration while maintaining consistency across interviews. The interview questions center on key factors influencing artistic

creation, including personal creativity, cultural environment, market dynamics, policy support, and technological innovation. With participants' consent, interviews were audio-recorded or noted manually to ensure ethical compliance, anonymity, and confidentiality.

Table 1 Interview Outline

Interview Outline	
Interview Questions	What is the current environment for creating Chinese flower and bird paintings? Do you think it's suitable for your creation?
	Is your creative behavior usually individual or collective?
	Where does your creative inspiration usually come from?
	What is the creative philosophy and style of your Chinese flower and bird paintings? How were they formed?
	What is your understanding of art management? What specific roles did it play in your creative process?
	Who is usually responsible for curating the solo or group exhibitions you hold? Is there a professional curatorial team?
	Has your work entered the market? What channels are usually used for sales? Is there a dedicated agent or gallery agent?
	Do you think the existing art management system and institutions can effectively support the development of flower and bird painting creation? What aspects need improvement?
	What trends or characteristics do you think flower and bird painting will present in the future?
	What factors do you think play a role in promoting the development of Chinese flower and bird painting creation?
	What do your relatives and friends think of the creation of Chinese flower and bird paintings that you are engaged in?

2) Grounded Theory Coding Framework

Interview data were analyzed using NVivo 15.0 software, generating approximately 56,000 words of first-hand textual data. The analysis followed the three coding stages of grounded theory, open coding, axial coding, and selective coding, to extract conceptual categories and construct a theoretical model of influencing factors in flower and bird painting creation.

3) Questionnaire Survey

A measurement scale was developed based on the grounded theory coding results to quantify the influence of each factor identified. The questionnaire includes sections on creative motivation, artistic process, external environment, and market perception. Responses were measured using a Likert scale, and the instrument underwent content validity checks by experts and pilot testing to ensure clarity and reliability.

3.4 Data Collection

The data collection process of this study was carried out in two main stages: qualitative and quantitative. In the qualitative stage, semi-structured interviews were conducted from September to November 2024 with participants including university teachers, graduate students, gallery agents, and museum managers involved in flower and bird painting. Prior to each interview, participants'

consent was obtained for audio recording, and in cases where permission was not granted, detailed notes were taken instead. All data were subsequently transcribed and analyzed using NVivo 15.0 software following the principles of grounded theory, which involved open coding, axial coding, and selective coding to identify and categorize key influencing factors in the creation process of contemporary Chinese flower and bird painting.

In the quantitative stage, the findings derived from the qualitative analysis were used to design a structured questionnaire aimed at quantifying the importance of the identified influencing factors. The questionnaire was distributed nationwide through the Wenjuanxing online platform and shared across social media platforms such as WeChat, QQ, and Weibo to reach a broad range of respondents, including practicing artists, art managers, and art educators engaged in flower and bird painting. After data collection, responses were carefully screened for completeness and accuracy prior to statistical analysis. Furthermore, experimental validation was conducted to examine the impact of specific variables, such as different materials, tools, and technological applications, on the creative process and the quality of artistic works, thereby enhancing the reliability and practical relevance of the research findings.

3.5 Statistics Used for Data Analysis

The quantitative data collected from the questionnaire were analyzed using statistical software such as SPSS and AMOS to ensure a rigorous and systematic examination of the research hypotheses. Various statistical techniques were employed to process and interpret the data. Descriptive statistics were first used to summarize the demographic characteristics of respondents and identify general trends within the sample population. To ensure measurement reliability, Cronbach's Alpha was applied to assess the internal consistency of each construct within the questionnaire. Subsequently, Exploratory Factor Analysis (EFA) was conducted to uncover the underlying factor structures among the influencing variables, followed by Confirmatory Factor Analysis (CFA) to validate the measurement model derived from the exploratory phase. To further test the theoretical relationships proposed in the conceptual framework, Structural Equation Modeling (SEM) was utilized, allowing for a comprehensive examination of both direct and indirect effects among the influencing factors. In addition, regression analysis was employed to determine the strength and direction of influence of specific variables on artistic creation outcomes. The integration of qualitative findings obtained from grounded theory with quantitative statistical analysis provided both theoretical depth and empirical validation, thereby enhancing the overall robustness, credibility, and practical applicability of the research results.

4. Data Analysis and Findings

4.1 Introduction

This chapter presents the analysis and findings of the study based on both qualitative and quantitative data. The purpose is to explore and verify the key factors influencing the creative process of contemporary Chinese flower and bird painting from the perspective of art management. Through grounded theory and questionnaire analysis, the study identifies five core dimensions—environmental factors, inspiration factors, art management factors, market factors, and development trend factors. The results integrate theoretical insights with empirical evidence, providing a comprehensive understanding of how these factors interact and influence artistic creation.

4.2 Data Analysis of the Quantitative Data

4.2.1 Construction of a Model of Influencing Factors in the Creation Process of Contemporary Chinese Flower and Bird Painting

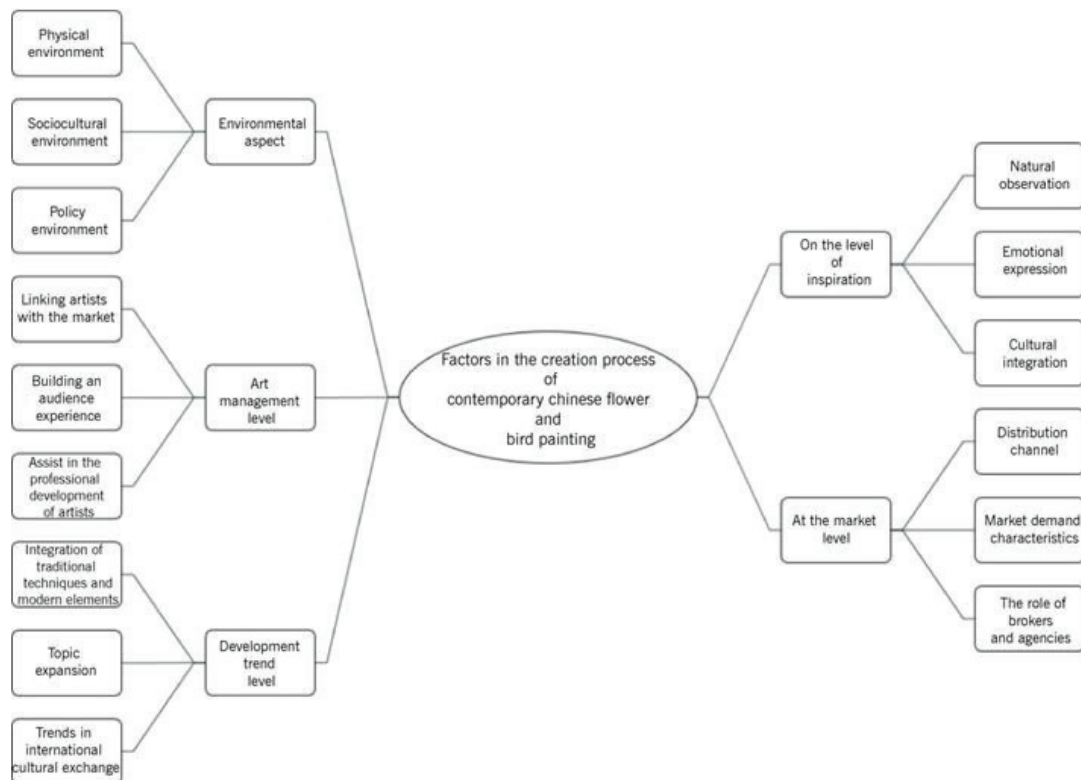


Figure 1 Factors Influencing the Creation Process of Contemporary Chinese Flower and Bird Painting

This study uses the grounded theory analysis method to construct a model of influencing factors in the contemporary Chinese flower and bird painting creation process from the perspective of art management shown in Figure 1. This model covers five main dimensions: environmental factors, inspiration factors, art management factors, market factors, and development trend factors. Through comprehensive and in-depth coding and analysis, this study clearly divides the influencing factors in the contemporary Chinese flower and bird painting creation process from the perspective of art management into five core dimensions, namely environmental dimension, inspiration dimension, art management dimension, market dimension, and development trend dimension. The environmental dimension and the inspiration dimension together form the foundation of flower and bird painting creation, providing necessary material basis, cultural nutrients, and fertile soil for creative inspiration for creative activities; The dimension of art management is closely related to the dimension of the market, and both work together on the key links of creative operation and value transformation. Art management promotes the effective connection between creation and the market through a series of professional functions and strategies, while the market influences the creative process through its demand orientation and feedback mechanism; The dimension of development trend is like a guiding light, clearly indicating the direction of creative development, leading flower

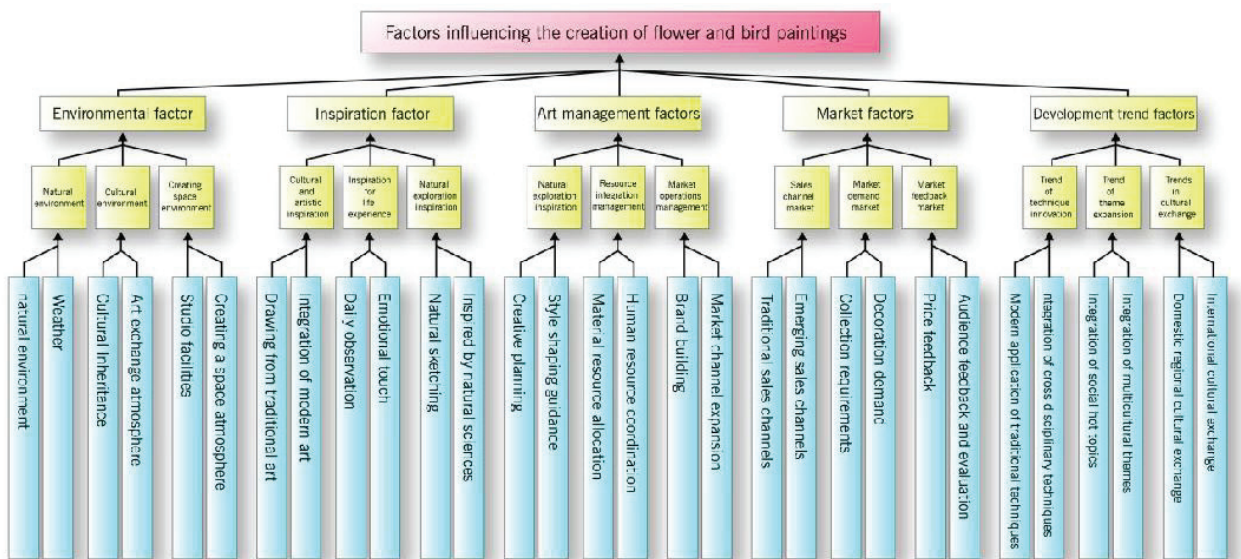
and bird painting creation to continue to advance and innovate in the trend of the times. Based on a detailed study of the creative process of flower and bird painting and the scientific application of grounded theory methods, this study will describe in detail and accurately the dimensions of various specific influencing factors and their complex interaction mechanisms, thus constructing a comprehensive and systematic model of the influencing factors in the contemporary Chinese flower and bird painting creative process from the perspective of art management, and deeply exploring the internal logic and laws behind this art creation field.

4.2.2 Weight Analysis of Influencing Factors in the Creative Process of Contemporary Chinese Flower and Bird Painting

1) Collection of Evaluation Indicator System Construction

This study constructs an Analytic Hierarchy Process (AHP) model to determine the evaluation index system framework for the contemporary Chinese flower and bird painting creation process from the perspective of art management. There are five primary indicators, namely environmental factors, inspiration factors, art management factors, market factors, and development trend factors. There are a total of 15 secondary indicators and 30 tertiary indicators. The measurement indicators under the secondary indicators further depict the influencing factors of the contemporary Chinese flower and bird painting creation process from various aspects, including environmental factors (natural environment, cultural environment, creative space environment), inspiration factors (cultural and artistic inspiration, life experience inspiration, natural exploration inspiration), art management factors (creative guidance management, resource integration management, market operation management), market factors (sales channel market, market demand market, market feedback market), and development trend factors (technique innovation trend, theme expansion trend, cultural exchange trend). The collection of indicator systems is shown in Figure 2.

Figure 2 Evaluation Index System of Contemporary Chinese Flower and Bird Painting Creation Process from the Perspective of Art Management



2) Weight of evaluation indicators

According to the results of the hierarchical analysis of the evaluation index system for the contemporary Chinese flower and bird painting creation process from the perspective of art management, the weights of each primary indicator element are shown in the following table. The calculation method used in this study for weight indicators is to evaluate the importance of each pair of indicators through a 9-level scaling method, obtain the relative importance scores between the first level indicators for the decision-making objective of "Evaluation of Contemporary Chinese Flower and Bird Painting Creation Process from the Perspective of Art Management", and construct the judgment matrix A as shown below. At the same time, after standardizing the judgment matrix A, a comparison matrix N is obtained, and the weight vector is W. In the standardized calculation, for the i-th column of the judgment matrix A, the normalized i-th column element of the matrix N is $\frac{A_{ij}}{\sum_{k=1}^n A_{kj}}$, Where $N_{ij} = A_{ij} / \sum_{k=1}^n A_{kj}$ indicates the sum of all elements in the j-th column. For the standardized comparison matrix N, the average value of each row is calculated to obtain the weight vector W. The specific calculation results are as follows. Taking the index weight judgment matrices constructed in this study for "target layer → main criterion layer, main criterion layer → sub-criterion layer, and sub-criterion layer → index layer" as examples.

3) Index weight judgment matrix of target layer main criterion layer

Through the detailed scoring results of 10 experts in Analytic Hierarchy Process, it can be clearly concluded that in the first level evaluation index system of the research theme of "Contemporary Chinese Flower and Bird Painting Creation Process from the Perspective of Art Management", environmental factors, inspiration factors, art management factors, market factors, and development trend factors, as well as the relative weight ranking of each second and third level indicator under these first level indicators, should strictly follow the actual importance of each indicator in the creation process. Specifically, the judgment matrix constructed based on five primary indicators of "environmental factors, inspiration factors, art management factors, market factors, and development trend factors" was evaluated by experts. The weight calculation results showed that among all primary indicators, the weight levels of "inspiration factors" and "art management factors" were the most prominent, with both weights being 0.2304. This indicates that the source of creative inspiration and the support of art management have equal and crucial core positions in the entire contemporary Chinese flower and bird painting creation process. Following closely behind is the "market factor" with a weight of 0.2061, indicating that although market demand has a significant driving effect on creativity, its importance is slightly lower compared to inspiration and art management factors. The weight of "development trend factors" is 0.1999, indicating that the guiding role of future development trends in creativity cannot be ignored. In contrast, the weight of "environmental factors" is the lowest, only 0.1333, which reflects that although the external environment also has a certain influence in the creative process, its relative importance is relatively weak. Based on the above analysis, it can be seen that in the creative process of contemporary Chinese flower and bird painting, the inspiration of creators and the support of artistic management are the key internal driving forces that promote creation, while market demand and development trends provide important external guidance for creation. In contrast, the influence of environmental factors in creation is relatively small, as shown in Table 2.

Table 2 Weight of the First Level Indicator System for Evaluating the Creative Process of Contemporary Chinese Flower and Bird Painting from the Perspective of Art Management

Flower and Bird Painting Creation Influence Factor	Environmental Factor	Inspiration Factor	Art Management Factors	Market Factors	Development Trend Factors	Wi
Environmental Factor	1	0.6667	0.6667	0.5	0.6667	0.1333
Inspiration Factor	1.5	1	1	1.5	1	0.2304
Art Management Factors	1.5	1	1	1.5	1	0.2304
Market Factors	2	0.6667	0.6667	1	1.3333	0.2061
Development Trend Factors	1.5	1	1	0.75	1	0.1999

4.4 Summary of the Results

The analysis of both qualitative and quantitative data reveals a systematic understanding of the factors influencing the creation of contemporary Chinese flower and bird painting from the perspective of art management. Grounded theory identified five core dimensions—environmental factors, inspiration factors, art management factors, market factors, and development trend factors—that collectively shape the creative process. Quantitative analysis using the Analytic Hierarchy Process (AHP) quantified the relative importance of these factors. Inspiration factors and art management factors emerged as the most critical, each with a weight of 0.2304, highlighting their role as the primary internal drivers of creativity. Market factors (0.2061) and development trend factors (0.1999) were found to provide significant external guidance, influencing the direction and reception of creative work. Environmental factors (0.1333) were identified as supportive but less directly influential compared to the other dimensions. Overall, the results demonstrate that the creative process of contemporary Chinese flower and bird painting is a dynamic system where internal motivation and management support are central, while market orientation, trend awareness, and environmental conditions provide complementary influence. This integrated model offers a clear framework for understanding the interaction and relative weight of factors that drive artistic creation in the modern era.

5. Conclusion, Discussion, and Recommendation

5.1 Conclusion

This study fills the existing research gap regarding the role of art management in the process of Chinese flower and bird painting creation. While previous studies have primarily focused on artistic style, technical evolution, and market value, this research constructs a systematic influencing factor model from the perspective of art management. The model identifies and analyzes five core factors that affect the creation of flower and bird painting: environmental factors, inspiration factors, art management factors, market factors, and development trend factors. Through grounded theory and weight analysis, this study quantifies the influence of each factor and reveals the interaction mechanism among them.

The research findings show that the creation of contemporary Chinese flower and bird paintings is influenced not only by traditional art forms but also by the modern social and cultural environment, market dynamics, and technological progress. Art management serves as a bridge and coordinating mechanism, integrating creative resources, market operations, and communication processes to transform artistic value into economic value. The five factors collectively form the foundation of the flower and bird painting creative process: environmental and inspiration factors provide the context and motivation for creativity; art management and market factors facilitate operational and value transformation; and development trend factors drive innovation and future growth. The influencing factor model developed in this study integrates multidimensional perspectives from art management theory, painting art studies, and creative process research, offering a new theoretical framework for understanding the complexity and dynamism of flower and bird painting creation. The model's interdisciplinary nature not only fills the theoretical gap in art management studies but also provides practical strategies to optimize creative environments, strengthen management systems, expand market channels, and promote innovative artistic development. Ultimately, the study contributes to both the inheritance and innovation of traditional Chinese culture and art.

5.2 Discussion

The results highlight two major theoretical insights: the dynamic balance between market factors and artistic creation, and the driving force of development trend factors in artistic innovation.

First, market factors, such as sales channels, market demand, and audience feedback, exert a significant influence on artistic creation. The reciprocal interaction between market feedback and artistic expression shapes artists' creative direction and style. This finding aligns with Yu Yue's (2023) study, which also identified the significant role of market demand and feedback in artistic creation. However, the present research extends this understanding by emphasizing the synergistic relationship between market forces and art management. Art management acts as a professional mechanism to balance market orientation with artistic authenticity, ensuring that while artworks meet audience demand, they also preserve creative uniqueness. This balance fosters sustainable market development and enriches cultural value.

Second, development trend factors, including technique innovation, theme expansion, and cultural exchange, serve as the driving force for artistic innovation. The integration of traditional and modern techniques, the inclusion of contemporary social themes, and the strengthening of cross-cultural exchange contribute to the modernization and internationalization of flower and bird painting. This perspective resonates with Paul Gladston's (2014) argument that contemporary flower and bird painting reflects transformations in Chinese society and culture. However, this study goes further by positioning development trend factors as active drivers of innovation, enabling artists to meet evolving aesthetic needs and enhance the international visibility of Chinese art.

Through these findings, the study contributes to a more comprehensive understanding of how art management, market dynamics, and cultural evolution interact to shape creative processes. Artistic creation, therefore, should not be viewed as an isolated act but as a systemic process influenced by environmental, managerial, and developmental forces that ensure the vitality and sustainability of traditional Chinese painting in the modern era.

5.3 Recommendation

Based on the research findings, this study proposes strategic recommendations for enhancing the management and development of contemporary Chinese flower and bird painting:

1) Optimizing the Creative Environment

Improving the physical and cultural environment of artistic creation is essential. This includes providing spacious and well-lit creative spaces, fostering an artistic atmosphere, and encouraging frequent cultural exchanges through exhibitions, seminars, and workshops. Moreover, government departments should increase policy support and provide financial guarantees for artistic activities to establish a supportive environment conducive to creativity.

2) Inspiring Creative Inspiration

Artists are encouraged to immerse themselves in nature to capture authentic images and emotional connections with their subjects. Engaging with the natural world enhances perception and fuels artistic inspiration. At the same time, creators should inherit and reinterpret traditional Chinese culture, combining classical techniques with contemporary perspectives to enrich the cultural depth and artistic vitality of their works.

3) Improving Art Management Systems

It is crucial to strengthen and modernize the art management framework by clarifying the division of responsibilities across functional departments and cultivating professional art management talent with global perspectives. Utilizing modern management tools and digital platforms can enhance the professionalization, digitization, and internationalization of art management, ensuring that the system effectively meets the evolving needs of artists and the market.

4) Expanding Market Channels

Art institutions and creators should explore innovative sales models, leveraging the Internet, digital media, and e-commerce platforms to broaden audience reach. By addressing the aesthetic preferences of diverse consumer groups and providing varied forms of flower and bird paintings, the art market can be revitalized. Additionally, strengthening copyright protection and market regulation is vital to safeguard artists' rights and sustain market integrity.

5) Promoting Artistic Innovation and International Exchange

To align with contemporary artistic trends, creators should integrate traditional skills with modern concepts, experiment with new themes and materials, and participate in international art exchange programs to showcase the unique beauty of Chinese flower and bird painting on the global stage. Enhancing international cooperation not only increases visibility but also promotes the cross-cultural dissemination of traditional Chinese art.

6) Future Research Directions

Future studies should expand the sample size and diversity, including artists from different regions, generations, and stylistic schools, to gain a more comprehensive understanding of influencing factors. Incorporating art market data and empirical performance metrics could further clarify the relationship between influencing factors and artistic quality, offering more precise and practical guidance for artists and art managers.

By systematically integrating these strategies, optimizing environments, inspiring creativity, strengthening management, expanding markets, and promoting innovation, this study envisions a multi-dimensional enhancement of Chinese flower and bird painting. Such advancement will not

only elevate artistic and cultural value but also invigorate market vitality and international influence, contributing to the enduring prosperity and global recognition of Chinese culture and art.

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**The Rational Upgrade of Dance Teaching in the Curriculum
System for Talent Development in Film and Television Performance:
The Case of Beijing Film Academy**

by

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Abstract

Dance teaching plays a pivotal role in the training of drama and film performance talents, serving as both a foundational and integrative component within the curriculum of higher art institutions. This study investigates the dance teaching model at the Beijing Film Academy, focusing on its function in developing students' physical expressiveness, stage presence, and narrative performance skills. Utilizing a qualitative case study approach, data were collected through interviews with instructors and students, classroom observations, curriculum analysis, and video recordings of dance sessions. The analysis reveals that dance teaching is structured to support four core dimensions of drama performance: voice, stage, body, and expression. Traditional dance forms, including Chinese classical, ethnic folk, and modern dance, are reinterpreted to align with dramatic narrative and character development, creating a bridge between physical training and dramatic storytelling. Furthermore, the curriculum demonstrates interdisciplinary integration with film and television performance, incorporating camera techniques, scene-based rehearsals, props, and visual abstraction strategies to enhance students' professional readiness. The progressive three-year training model begins with foundational physical awareness, advances to theatrical body expressiveness, and culminates in scene-based performance integration, ensuring that students develop both technical proficiency and interpretive skills. The study concludes that dance teaching at the Beijing Film Academy is a dynamic and adaptive pedagogical tool, transforming traditional movement training into a strategic medium for dramatic expression and performance excellence. These findings highlight the importance of holistic, innovative, and interdisciplinary approaches in cultivating well-rounded performers capable of meeting the evolving demands of stage, film, and television production. Recommendations include continued integration of traditional and modern practices, progressive training refinement, adoption of innovative technologies, ongoing curriculum evaluation, and strengthened collaboration with industry professionals to enhance practical applicability.

Keywords: Dance Teaching, Drama Performance, Film Performance, Physical Expressiveness, Curriculum Integration

1. Introduction

1.1 Background and Importance of the Problem

Dance teaching, as an important part of the curriculum system and setup in the drama performance major, is a key component in the training of talents for film and television performance. Currently, in the curriculum system of drama performing arts in higher art institutions, dance courses serve as a core training form for physical expression abilities, providing a solid foundation for character portrayal in stage performances. Furthermore, it plays a crucial role in the collaborative construction of abilities in the curriculum setup for talent cultivation in performance majors. Additionally, training in dance expressiveness enhances the integration of essential elements such as voice, stage presence, form, and presentation in stage drama behavior, providing a significant reinforcing effect. Thus, the rational setup of dance teaching in drama performance majors not only concerns the functional effectiveness of course objectives but also provides a foundation and guarantee for the optimization of performance major curriculum systems. As a fundamental means of the performance course model, the inherent teaching content, links, methods, and characteristics of dance should form a distinct supportive relationship with the demands of drama performance. Furthermore, the methodological dissection of dance lesson examples should align with the existing textbook models in dance disciplines, integrating into the unique macro construction process of intrinsic teaching frameworks. This aims to allow for a more rational logical arrangement effect in the talent cultivation system of drama performance majors.

The organization of courses in dance teaching serves as a contextual template for the core pursuit of stage dynamism in the drama performance major, highlighting the narrative tension of stage actions through a rhythmic sense and physical flow of dance, effectively addressing the contextual reinforcement issues of stage drama space. It provides a fundamental basis for the performance dimensions of comprehensive rehearsals in advanced drama segments, ultimately offering a more solid foundation for the performance abilities required in the filming and production of film and theater. The Initial Model of Dance Teaching in the Curriculum System for Talent Development in Film and Drama Professionals

1.1.1 The Auxiliary Characteristics of Dance Teaching under the Traditional Drama Course Model

Dramatic performance is a comprehensive stage art that utilizes literature, music, dance, and fine arts to shape the artistic images of dance, collectively forming a performance model to reveal social contradictions and reflect the realities of life. The talent cultivation system for drama performance professionals is structured through training in four dimensions: voice, stage, body, and expression, meaning that students in drama performance use the stage as the foundation for their practical drama work.

The curriculum model focuses on the integrated enhancement of performance abilities through these four aspects, with training in dance and body expression serving as a foundational element in the teaching system. This further provides strong momentum for the character's actions related to voice, stage, body, and expression. Therefore, dance teaching within the drama performance specialty highlights two significant educational features. Firstly, it is based on existing dance textbooks but does not confine itself to a singular training form in any specific dance type. Instead, it utilizes the unique body language expressions of Chinese classical dance, ethnic folk dance, and modern dance as prerequisites for constructing dance training in the drama performance specialty, focusing on the core motivations of each dance type to form a comprehensive and restructured dance curriculum. Ultimately, this allows students to achieve training results in dance

methods while also aligning with the physical expression demands of drama performance.

Secondly, based on the expressive characteristics of dramatic language, the physical expression methods of dance rhythm and force effect are used to enhance the effectiveness of the actions of stage characters in drama performances, strengthening dance rhythms as a dynamic language elevated above everyday behavior. This is not only reflected in the specific body techniques and characteristics unique to dance but also provides the visual conditions for the physical performance tension in the actions of characters within dramatic language. Therefore, it is clear that utilizing the auxiliary characteristics of dance teaching to develop body-enhanced visual effects as a dramatic means encourages students to implement and express their behavioral motivations in stage drama works, thus fulfilling the core foundation of their performance skills training. Consequently, in the talent cultivation system for drama performance, the teaching planning and processes of dance courses play a bridging role in the competence development related to the logical structuring and grading of drama performance courses. Particularly in the later stage of practical training with dramatic excerpts, the dance rhythm-based physical expressiveness formed in earlier stages can further enhance the dramatization of characters' actions, providing a somatic expressivity that emphasizes the externalization of characters' inner activities in dramatic works.

1.1.2 The Characteristics of Dance Teaching in Coordinating with Drama to Build Practical Training Features for Talent Cultivation

Dance teaching is an expressive training that uses the body as a medium, characterized by rhythm and fluidity. It plays a crucial role in enhancing body expression in the training of talents in drama performance. As two major forms in the performing arts, dance and drama share a common goal in talent cultivation, which is to use the unique physical characteristics of stage language as a means of artistic expression. Therefore, it is clear that dance teaching has a significant impact on enhancing body expression in the curriculum of drama performance.

The film and television performance major, as a specialized mode of drama performance, not only inherits the overall pattern of stage drama training but also connects with the camera techniques of film production. This forms an artistic expression platform that utilizes media technology for drama performance. Thus, when diverse methods of dance teaching are integrated, it will undoubtedly provide a more rational functional mode to meet the diverse demands of dramatic expression in film shooting. The mode of work in this form of film differs from the traditional structure of stage drama, with the core distinction lying in the interactive correspondence between the laws of dramatic performance and the visual effects of the camera. This further promotes actors to collaborate with the filming process of the film industry across four training dimensions: voice, lines, body, and expression. It also deepens the differentiation of curriculum training in the cultivation of professionals in film and television, thereby achieving a market-oriented integration of performance capabilities.

In other words, the curriculum construction mode of film and television performance majors not only aligns with the current assembly line demands of filming but also gradually shifts the talent cultivation model of contemporary higher arts institutions towards personal capability advantages, self-selection, and even ultimate career aspirations. The ultimate goal is all for film and television. Students majoring in performance have enhanced abilities in visual performance under the lens, moving away from the integrated model of traditional theater performance curriculum. Therefore, there is an emphasis on the rational upgrade of dance teaching in the training of performing talents in film and television. The essence of this change is to strengthen the individuality of students' performance abilities and the unique characteristics of their performances.

Dance, as a fundamental means of stage physical expression, expands dramatic expressiveness through dance training methods, gradually forming a complementary feature of physical expressiveness in contemporary drama. This further facilitates the self-evolution of the training model for talents in film and television performance, ultimately optimizing the construction of the drama performance curriculum model and providing students with a solid and targeted skill reserve for entering film sets and stage productions.

1.1.3 The Basic Model and Logic of Dance Teaching under Dramatic Forms

The system setting of dance teaching methods and curriculum levels is a core means of educational behavior. In the training of talent in the field of drama performance, the content of textbooks has always followed a standardized system logic, strictly based on the performance needs of stage drama to arrange dance courses, thereby structuring teaching content based on disciplinary characteristics. Dance teaching, as a means to enhance the capacity for drama performance, is central to achieving expressiveness in role portrayal. In teaching activities, both teachers and students engage in interaction and communication through various methods, aiming for students to acquire certain performance skills and develop well-rounded personal qualities and values.

It is thus evident that in the dance curriculum for drama performance majors, the implementation of classroom teaching is fundamentally based on the expressive characteristics of theatrical language as training objectives, using the actions expressed through dramatic forms and character delineation to ultimately construct a unique ability for performance talents in the field of drama, with dance teaching forming a foundational training model within the system of dramatic performance.

Beijing Film Academy, as the highest institution for cultivating drama performance talents, has always focused on stage drama and film studies as the core characteristics of its academic construction. Its ultimate goal is to establish a leading domestic and world-class film performance system, playing an important role in academic development and talent cultivation. As the core discipline of Beijing Film Academy, the dance courses in the School of Performance have always played a crucial role in the teaching system. Over the years, a systematic and precise course model for training talents in drama performance has been developed from continuous academic construction.

The characteristics of dance teaching have gradually improved alongside the development of the discipline, forming a set of body training methods that align with the dimension of drama performance, thus shaping teaching materials with film performance characteristics. Specifically, the dance courses in the School of Performance are centered on the bodily needs of dramatic language, constructed with logical supports based on dance professional textbooks, ultimately transforming into a distinctive dance teaching methodology unique to the School of Performance at Beijing Film Academy. The effectiveness of these courses not only expands the role of dance education within the course system of drama performance but also horizontally develops an updated model of interdisciplinary dance teaching, ultimately completing the transition of body training from rhythmic characteristics to action characteristics.

2. Literature Review

2.1 Related Concepts and Theories

Dance teaching in the drama performance curriculum serves as a core training mechanism for physical expression, integrating multiple performance dimensions such as voice, stage, body, and expression. The theoretical foundation of this integration is rooted in curriculum theory, which emphasizes aligning teaching objectives, methods, and content with the ultimate goals of talent cultivation (Jin, 2019; Zhong, Wang, & Wang, 2020). Dance as a medium of artistic expression is not merely a technical skill but a narrative tool, shaping the physical storytelling capabilities required in stage and screen performances (Jacques Lecoq, 2018).

The expressive characteristics of dramatic language, when combined with the rhythmic and dynamic qualities of dance, form a multi-layered model of body dramatization. This model supports students in developing both aesthetic sensibilities and technical skills required for character portrayal in drama performances. According to Pan (2016) and Sheng (2012), effective drama education requires an integrated approach where dance training not only reinforces physical expressiveness but also harmonizes with the dramaturgical and narrative goals of the performance.

The concept of “body dramatization” in dance teaching highlights the transformation of traditional dance forms into functional elements of dramatic storytelling. It shifts focus from purely aesthetic movement to a mode of physical narrative expression, aligning bodily gestures and rhythms with dramatic objectives. This approach underpins the training in film and television performance majors, where dance movements must be adapted to camera angles, scene requirements, and character interactions.

2.2 Literature Surveys

Previous studies emphasize the interdisciplinary nature of dance teaching within drama performance education. Jacques Lecoq (2018) advocates for a creative approach to physical theater, emphasizing improvisation, expressiveness, and the poetic potential of movement as a tool for storytelling. Lecoq’s methodology informs contemporary drama curricula by encouraging physical exploration as a means of developing character and narrative depth.

Jin (2019) and Zhong et al. (2020) provide theoretical insights on curriculum design, stressing the need for course content to reflect both educational objectives and practical industry needs. These frameworks highlight the importance of structuring dance courses to align with broader performance training goals, ensuring that students develop holistic capabilities for both stage and screen performance.

Research by Sheng (2012) and Pan (2016) focuses on the practical application of dance in drama curricula, particularly in cultivating physical expressiveness that supports dramatic action. These studies indicate that students’ mastery of dance rhythms, force, and movement dynamics directly influences their ability to convey nuanced emotional and psychological states in performance. By combining traditional dance techniques with innovative physical theater methods, drama programs can enhance students’ overall expressive potential.

2.3 Conceptual Framework

The conceptual framework for integrating dance teaching into drama performance curriculum emphasizes four dimensions: voice, stage, body, and expression. Dance serves as a core training medium that intersects with these dimensions, providing a physical foundation for expressive storytelling. The framework recognizes dance as both a technical skill and a narrative tool, with its methods and content adapted to the dramaturgical needs of stage and screen performance. The framework also incorporates the progression from traditional dance methods to contemporary physical theater approaches, enabling students to apply learned skills in both stage and camera contexts. Core elements include:

- Rhythmic and dynamic body training to enhance physical expressiveness.
- Integration with dramatic text and narrative context to reinforce storytelling.
- Adaptation to interdisciplinary performance requirements, including film and television production.
- Evaluation through practical performance tasks, ensuring alignment with talent cultivation objectives.

This conceptual framework informs the development of curriculum models that balance traditional pedagogical approaches with innovative methods of physical storytelling, ultimately enhancing students' preparedness for professional performance careers.

2.4 Research Hypothesis

Based on the conceptual framework and literature review, the following research hypotheses are proposed:

1) Dance teaching that integrates traditional dance techniques with physical theater approaches enhances students' ability to perform dramatic actions in both stage and screen contexts.

2) Incorporating interdisciplinary methods in dance teaching increases the alignment between curriculum content and professional performance requirements.

3) Structured dance curriculum models, emphasizing rhythm, dynamics, and bodily narrative, positively impact students' overall expressive capabilities in drama performance majors.

The use of scene-based, film-set simulation in dance teaching strengthens the transfer of skills from academic training to professional practice in film and television performance.

3. Research Methodology

3.1 Research Design

This study adopts a qualitative case study design, focusing on the dance teaching model within the drama and film performance curriculum at Beijing Film Academy. The research examines how dance courses are structured, taught, and integrated with drama and film performance training. By analyzing teaching methods, curriculum arrangements, and student learning outcomes, the study aims to reveal the mechanisms through which dance training enhances expressive abilities in both stage and screen contexts. The design emphasizes the interdisciplinary integration of traditional dance techniques, physical theater, and film performance training, reflecting both practical and

theoretical dimensions of contemporary curriculum models. This approach allows for a comprehensive understanding of how dance teaching facilitates talent cultivation in the fields of drama, film, and television performance.

3.2 Population and Sample

The population of this study comprises students, instructors, and curriculum planners from the School of Performance at Beijing Film Academy. Specifically, the study focuses on third-year and fourth-year drama and film performance students who have completed the full sequence of dance training courses, dance instructors and physical theater teachers responsible for designing and delivering the curriculum, and curriculum developers overseeing the integration of dance courses within the overall drama performance major. A purposive sampling method was employed to select participants who could provide rich insights into the dance teaching system and its role in developing stage and screen performance skills, ensuring the study captures both practical and pedagogical perspectives.

3.3 Research Instruments

Multiple instruments were utilized to collect comprehensive data for this study. Structured and semi-structured interviews with instructors and students explored their experiences, perceptions, and evaluations of dance training methods. Observation checklists were used during dance classes and rehearsals to document teaching strategies, student engagement, and physical expressiveness. Curriculum documents, including dance textbooks, lesson plans, and course schedules, were analyzed to examine the alignment of dance teaching with performance objectives. Video recordings of class sessions and student performances provided detailed insight into body dynamics, rhythm, and the integration of dance with dramatic narratives. Collectively, these instruments allowed for triangulation of data, enhancing the reliability and depth of the qualitative findings.

3.4 Data Collection

Data collection followed a systematic process to ensure comprehensive coverage of the dance teaching system. Classroom observations and video documentation of dance courses were conducted across three academic years, focusing on both individual and group performance exercises. Interviews with instructors provided insight into teaching objectives, methodologies, and the integration of dance with drama and film performance. Interviews with students captured their feedback on skill development, challenges encountered, and perceived effectiveness of the dance curriculum. Additionally, curriculum materials were analyzed to assess the alignment between course objectives, teaching methods, and performance outcomes. Ethical considerations were strictly observed, including informed consent, confidentiality, and voluntary participation of all participants.

3.5 Statistics Used for Data Analysis

Given the qualitative nature of this study, thematic content analysis was employed for data analysis. Key steps included transcription and coding of interview responses, observation notes, and video recordings. Recurring themes and patterns related to dance teaching methods, interdisciplinary integration, and skill development were identified, and findings were cross-validated through triangulation of interviews, observations, and curriculum documentation. Furthermore, the relationships between dance training components and performance outcomes in both stage and film contexts were mapped. This analysis emphasized understanding the structural logic, methodological innovation, and effectiveness of dance teaching as a foundational tool for developing physical

expressiveness in drama and film performance.

4. Data Analysis and Findings

4.1 Introduction

This section examines the dance teaching methods and curriculum models within the drama and film performance major at Beijing Film Academy. Dance teaching is more than a functional course; it is a foundational tool for cultivating body expressiveness and integrating key performance dimensions such as voice, stage presence, movement, and dramatic expression. By analyzing the curriculum structure, teaching methods, and practical applications, this study highlights how dance courses systematically enhance students' abilities for both stage drama and film performance. The analysis focuses on three main aspects: the traditional auxiliary role of dance in drama performance, the interdisciplinary integration of dance and film performance training, and the innovative restructuring of dance teaching in contemporary curricula.

4.2 Data Analysis of the Qualitative Data

4.2.1 *The Initial Model of Dance Teaching in Drama Performance Curriculum*

Under the traditional drama course model, dance serves as a fundamental component of dramatic training. Drama performance integrates literature, music, dance, and visual arts to portray social realities, with dance teaching reinforcing the four key dimensions of voice, stage, body, and expression. The curriculum incorporates Chinese classical dance, ethnic folk dance, and modern dance, enabling students to acquire both technical proficiency and expressive capacities tailored to the demands of dramatic performance. Dance rhythm and force effects enhance the visual tension and physical expressiveness of stage characters, transforming abstract bodily training into a practical tool for dramatizing character actions. In this auxiliary capacity, dance bridges foundational training and the enactment of stage performances, preparing students for advanced drama excerpts. In the context of film and television performance, dance teaching is further integrated with camera techniques and visual storytelling. The interplay between dramatic performance and visual effects allows students to develop enhanced expressive skills that meet the professional requirements of film production. Consequently, the curriculum shifts from traditional theater models to a more individualized skill development, emphasizing the cultivation of personal performance abilities. Dance teaching methods follow a systematic disciplinary logic, prioritizing dramatic expressiveness and interactive learning, with classroom activities facilitating communication, role portrayal, and the acquisition of comprehensive performance skills.

4.2.2 *Interdisciplinary Curriculum Integration*

Dance teaching in drama performance curricula extends beyond physical training to incorporate narrative and dramatic expression. Through the concept of "body-dramatized dance," traditional movements are reinterpreted to convey character motivations and narrative progression, establishing a dynamic relationship between dance and dramatic action. The teaching model is structured around four dimensions: the inheritance and adaptation of traditional dance models for dramatic purposes, the incorporation of film and television-specific characteristics to align with camera techniques, the development of visually dense body semantics to enhance physical narrative, and the integration of evaluation and market-oriented methods through interactive imaging technology. In addition, the curriculum emphasizes systematic lower limb training for both stage and

film applications, utilizing innovations such as physical theater, aerial techniques, and props, including masks and puppets, to enhance bodily expressiveness in alignment with professional performance demands.

4.2.3 Innovative Restructuring of Dance Teaching Models

Dance teaching has evolved to meet the demands of avant-garde drama and film performance. Physical expressiveness training emphasizes dynamics, rhythm, shape, and psychological engagement, transforming dance into a tool for narrative and dramatic expression rather than solely an aesthetic pursuit. Course structures progress across three years: first-year courses develop basic physical abilities and body awareness through integrated practices such as yoga, Pilates, and martial arts; second-year courses focus on theatrical body expressiveness, situational combinations, and film-adapted training using props and wire techniques; third-year courses implement stage space simulations and physical theater rehearsals, enabling students to consolidate dance skills into cohesive dramatic works. Scene-based teaching, inspired by film set models, connects dance training with professional workflows, while physical theater and one-shot filming techniques cultivate visual abstraction and contemporary stage aesthetics. This approach supports graduation projects and strengthens the integration of dance training with practical performance requirements in both stage and film contexts.

4.3 Summary of the Results

The analysis reveals that dance teaching is foundational for developing voice, stage presence, movement, and expressive capabilities in drama and film performance majors. The curriculum effectively integrates traditional dance forms with dramatic narrative, physical theater, and film-specific training requirements. Innovative restructuring of the program, including scene-based rehearsal, the use of props, and camera-oriented exercises, enhances students' visual expressiveness and readiness for professional environments. The progressive three-year model—first-year physical awareness, second-year theatrical expressiveness, and third-year scene-based performance—ensures a systematic development of skills aligned with contemporary performance demands. Overall, the dance curriculum at Beijing Film Academy demonstrates a holistic, interdisciplinary, and innovative approach, transforming traditional dance training into a strategic tool for dramatic expression and professional excellence in stage and film performance.

5. Conclusion, Discussion, and Recommendation

5.1 Conclusion

This study demonstrates that dance teaching plays a fundamental role in the training of drama and film performance talents, serving as both a foundational and integrative component of the curriculum. Dance courses at the Beijing Film Academy are not limited to traditional movement training but extend into the realm of dramatic expression, bridging the gap between physical technique and narrative storytelling. The analysis shows that dance teaching enhances students' capabilities in voice, stage presence, movement, and expressive performance, providing a solid foundation for character portrayal on stage and in film. By integrating traditional dance forms with avant-garde theatrical methods, physical theater, and film-specific techniques, the curriculum enables students to translate physical skills into dramatic and visual language, supporting their professional development. The progressive structure of the program—beginning with physical awareness, advancing to theatrical expressiveness, and culminating in scene-based performance integration—

ensures that students acquire not only technical proficiency but also the interpretive and expressive skills required for contemporary performance contexts. Overall, the dance curriculum serves as a strategic tool to cultivate well-rounded performers capable of adapting to stage, film, and television production demands, thereby reflecting the interdisciplinary and innovative ethos of the Beijing Film Academy's performance program.

5.2 Discussion

The findings highlight the transformative impact of dance teaching on dramatic and film performance education. Dance serves as a dynamic medium, enabling students to develop expressive capacities that align with both traditional and contemporary performance forms. The integration of body-dramatized dance, physical theater, and scene-based rehearsal demonstrates the curriculum's responsiveness to the evolving demands of the performing arts industry. Furthermore, the incorporation of film and television training elements, such as camera orientation, props, and visual abstraction techniques, equips students with practical skills that extend beyond conventional stage performance. This approach emphasizes the interconnectedness of body training, narrative expression, and professional readiness, illustrating the pedagogical value of an interdisciplinary curriculum. The study also underscores the importance of aligning teaching methods with the logic of performance disciplines, where rhythmic, dynamic, and aesthetic principles of dance are adapted to enhance the visual and emotional impact of dramatic action. By merging traditional dance principles with modern performance practices, the curriculum not only preserves cultural heritage but also fosters innovation and adaptability among students, preparing them for diverse professional scenarios in contemporary drama and film.

5.3 Recommendation

Based on the research findings, several recommendations are proposed to optimize dance teaching in drama and film performance programs. First, institutions should continue to integrate traditional dance techniques with modern dramatic and film-oriented practices, ensuring that courses remain relevant to professional demands. Second, the progressive training model should be maintained and refined, emphasizing foundational physical awareness in early years, theatrical expressiveness in intermediate years, and scene-based integration for advanced students. Third, the curriculum should expand the use of innovative tools and technologies, including props, camera-oriented training, and digital performance simulations, to further enhance students' practical readiness and creativity. Fourth, continuous curriculum evaluation is necessary to align teaching objectives with emerging industry standards, trends in physical theater, and international performance practices. Finally, the collaboration between instructors, production teams, and industry professionals should be strengthened to provide students with real-world experience, reinforcing the applicability of dance training in professional contexts. By implementing these recommendations, higher art institutions can cultivate performers who are not only technically proficient but also adaptable, innovative, and capable of excelling in both stage and film performance, thereby ensuring the sustainable development and modernization of drama and film performance education.

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**An Analysis on the Inheritance and Development of
Chinese Han and Tang Classical Dance Schools: Exploration
and Verification Based on Mixed Research Methods**

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Abstract

This study investigates the inheritance and sustainable development mechanisms of Han and Tang classical dance, a vital branch of Chinese classical dance that embodies the aesthetic essence and cultural identity of traditional Chinese civilization. Employing a mixed-methods research approach, combining grounded theory with quantitative validation, the study identifies the internal and external driving factors that influence the transmission, innovation, and modernization of this traditional art form. The findings reveal four primary mechanisms: (1) sustainable inheritance rooted in profound cultural connotation; (2) innovation that harmonizes tradition and modernity; (3) systematic talent cultivation ensuring skill continuity; and (4) an ecological communication network promoting interdisciplinary and global collaboration. The results highlight that the inheritance of Han and Tang classical dance transcends technical repetition, functioning instead as a cultural reproduction process that reactivates historical memory through physical practice. Quantitative analyses further confirm that core factors such as cultural depth and expressive training exert the most significant influence on inheritance effectiveness, followed by innovation-oriented and supporting factors. However, limitations in model explanatory power suggest that future studies should integrate external factors such as policy support, economic incentives, and international audience engagement. The study proposes three strategic recommendations: establishing a dual-track educational system integrating culture and technique, promoting innovation and internationalization through digital platforms, and developing ecological coordination mechanisms linking academia, government, and cultural institutions. Collectively, these strategies aim to achieve “living inheritance” of Han and Tang classical dance in the global era, positioning it as a dynamic vehicle for the modernization of intangible cultural heritage and a cultural bridge enhancing China’s soft power and civilizational dialogue worldwide.

Keywords: Han and Tang Classical Dance, Cultural Inheritance, Innovation in Traditional Arts, Intangible Cultural Heritage, Sustainable Development

1. Introduction

1.1 Background and Importance of the Problem

The Chinese Han and Tang classical dance school, with its long-standing aesthetic characteristics and rich cultural expressions, represents an indispensable and important branch of Chinese classical dance. Rooted in the traditional concepts of Chinese classical art, the Han and Tang classical dance school redefines Chinese classical dance by integrating historical and cultural depth. Through the study of dance imagery in historical documents and cultural relics, and by absorbing and reinterpreting ancient dance postures, the school has formed a distinctive style that embodies the aesthetic spirit and national identity of Chinese culture. The establishment of the Han and Tang Classical Dance School has provided Chinese classical dance with a new aesthetic foundation and theoretical framework, determining its unique dance language system. Over the years, the school has gained increasing attention in the fields of practice, theory, and pedagogy, both domestically and internationally. Its artistic concepts have greatly inspired practitioners to create performances that reflect traditional Chinese culture. However, in the face of rapid modernization and changing cultural values, the inheritance and development of traditional arts such as Han and Tang classical dance face multiple challenges. These include a shortage of skilled inheritors, limited innovation, and the influence of modern aesthetics, all of which threaten the sustainable development and global communication of this traditional art form.

1.2 Research Question

Given the current challenges in the transmission of Han and Tang classical dance, several key research questions arise:

- 1) What is the core driving force behind the inheritance and sustainable development of Han and Tang classical dance?
- 2) Are there differences in the evaluation of inheritance effects among different stakeholder groups (such as educators, students, performers, and audiences)?
- 3) How can the development path of traditional dance be reconstructed to balance heritage preservation and contemporary innovation?

1.3 Research Objective

This study aims to explore the core mechanisms and driving forces that influence the inheritance and development of Han and Tang classical dance. Specifically, it seeks to:

- 1) Identify and analyze the internal and external factors that affect the transmission and innovation of Han and Tang classical dance.
- 2) Examine perceptual and evaluative differences among various participant groups regarding the effectiveness of inheritance.
- 3) Construct a practical and sustainable development path for Han and Tang classical dance through theoretical analysis and empirical investigation.

The findings of this study will not only contribute to the theoretical understanding and practical inheritance of Han and Tang classical dance but also provide valuable references for the preservation and modernization of other traditional art forms in the contemporary era.

2. Literature Review

2.1 Related Concepts and Theories

The inheritance and development of Chinese Han and Tang classical dance are rooted in the historical evolution and cultural aesthetics of Chinese classical dance. Theoretically, the Han and Tang classical dance school is grounded in the pursuit of “cultural subjectivity”, emphasizing the independence of Chinese dance aesthetics from Western influence (Sun Y., 2007). The founder, Sun Ying, initiated the creation and teaching of Han and Tang classical dance in the 1980s, advocating for the nationalization of dance language and the revival of ancient cultural imagery. His seminal work, *Ten Essays on Chinese Classical Dance*, questioned the rationality of fusing opera, martial arts, and ballet within the framework of classical dance, calling instead for a return to the authentic spirit and aesthetic connotation of traditional Chinese culture.

Sun Ying’s theoretical orientation laid the foundation for a systematic approach to reconstructing the artistic characteristics of Han and Tang classical dance based on historical relics, literary sources, and artistic imagery. This perspective not only established a theoretical framework for inheritance but also defined the dance’s cultural positioning as a vehicle for national identity. Later scholars, such as Yan (2011), emphasized the integration of aesthetic cultivation and technical education, proposing that the understanding of Han and Tang dance should begin from early dance training stages and that artistic creation should balance historical authenticity with modern aesthetic needs.

In the broader academic discourse, the concept of cultural subjectivity (Sun Y., 2007) and intangible cultural heritage (Liu Q.Y., 2014) have become key theoretical pillars. These theories collectively emphasize that Han and Tang classical dance represents not only an art form but also a symbol of cultural wisdom and traditional aesthetics. Thus, the theoretical framework guiding this field combines cultural nationalism, heritage preservation, and aesthetic reconstruction.

2.2 Literature Surveys

2.2.1 Living Inheritance of Intangible Cultural Heritage

Liu Qingyi was among the first to categorize Chinese classical dance within the domain of intangible cultural heritage (ICH), positioning it as a subject of excavation, documentation, and protection rather than modern creation. By reconstructing representative works of traditional Ya-Yue court dance through historical materials such as dance notations and music scores, Liu (2014) proposed establishing an Asian Chinese-character cultural circle for classical dance heritage. This research provides a theoretical and practical foundation for the cross-cultural reconstruction and sustainable inheritance of Chinese dance.

In contemporary discourse, Xiao (2023) introduced the concept of “living inheritance,” emphasizing that the transmission of dance heritage must integrate with the daily life and cultural practices of the people. This aligns with the modern vision of embedding Han and Tang classical dance into community activities and mass culture, ensuring its vitality beyond academic or

performance settings.

2.2.2 Technological Empowerment and Cross-Media Communication

The advancement of digital technology has expanded the modes of cultural transmission. Deng and Ma (2021) observed that cross-media platforms enable traditional dances to transcend spatial limitations, fostering new creative expressions and broader audience engagement. Similarly, Tong and Yin (2011) highlighted that cross-cultural dialogues between “self” and “other” not only promote global recognition of Han and Tang dance but also serve as catalysts for artistic innovation and cultural identity reconstruction.

2.2.3 Sustainable Development through Dance Cultural Ecology

From the perspective of dance cultural ecology, Yang and Yuan (2016) proposed that dance inheritance must consider the intertwined influences of society, economy, and politics. Sustainable development of dance culture requires attention to the “nature-society-culture” triad, integrating ecological protection, social participation, and cultural continuity. This approach shifts focus from static preservation to dynamic interaction within contemporary contexts. Moreover, initiatives such as the “Han and Tang Dance Global Youth Maker Camp” exemplify cultural symbiosis, transforming the concept of “cultural export” into “value sharing” through interdisciplinary and digital innovation.

2.3 Conceptual Framework

Drawing upon the reviewed literature, the conceptual framework for this study integrates theoretical, cultural, and technological dimensions influencing the inheritance of Han and Tang classical dance.

Input Factors: Internal conditions such as theoretical foundation (Sun Y., 2007), aesthetic education (Yan J., 2011), and inheritor cultivation (Liu Q.Y., 2014).

Process Factors: Mechanisms of living inheritance through intangible cultural heritage practices (Xiao L., 2023), digital innovation (Deng Y.L. & Ma C.Y., 2021), and cross-cultural dialogue (Tong Y. & Yin Y., 2011).

Output Factors: Sustainable development outcomes in the dance cultural ecosystem (Yang X.D. & Yuan L.Y., 2016), including increased cultural influence and enhanced educational transmission.

Feedback Loop: The interaction between contemporary cultural demands and traditional dance forms promotes iterative improvement in inheritance strategies.

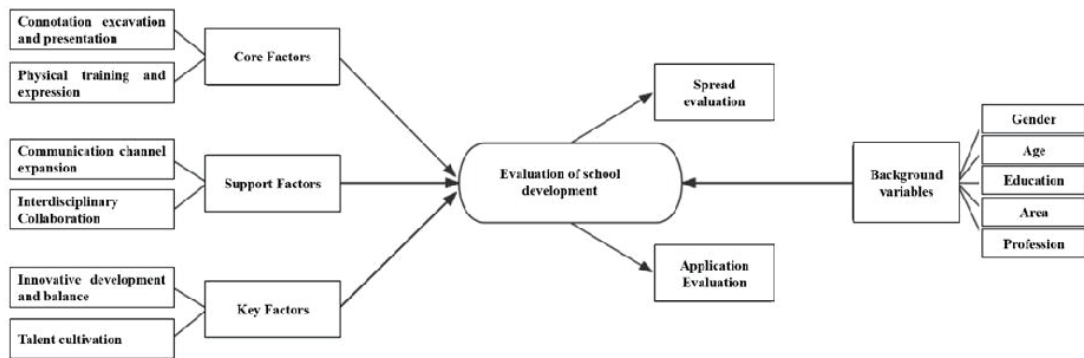


Figure 1 Conceptual Framework

This framework positions the inheritance and development of Han and Tang classical dance as a dynamic, multi-dimensional system, linking historical continuity, technological adaptation, and ecological sustainability.

2.4 Research Hypothesis

Based on the theoretical and empirical literature, the following hypotheses are proposed:

H1: The strength of the theoretical foundation (traditional aesthetics, dance language, and pedagogy) has a significant positive effect on the effectiveness of Han and Tang classical dance inheritance.

H2: The application of intangible cultural heritage practices and living inheritance mechanisms significantly enhances the sustainability of Han and Tang classical dance.

H3: Technological empowerment and cross-media communication positively influence the dissemination and modernization of Han and Tang classical dance.

H4: The interaction between dance cultural ecology (social, cultural, and economic contexts) and educational innovation moderates the relationship between inheritance practices and sustainable development outcomes.

H5: Differences in demographic and cultural backgrounds (e.g., gender, education level, cultural exposure) lead to significant variations in perceptions of inheritance effectiveness.

3. Research Methodology

3.1 Research Design

This study employs a mixed-method research design that integrates qualitative and quantitative approaches to provide a comprehensive understanding of the inheritance and development of Han and Tang classical dance. The qualitative phase, grounded in the principles of grounded theory, serves as the foundation for constructing a theoretical framework through semi-structured interviews with dance educators, practitioners, and scholars. These qualitative insights help identify key factors influencing the cultural transmission and sustainability of Han and Tang classical dance. To ensure the universality and reliability of this theoretical model, the study further

incorporates quantitative research by introducing a questionnaire survey. The quantitative phase verifies the theoretical patterns observed in the qualitative analysis through statistical testing. The integration of qualitative depth and quantitative breadth enhances the reliability, validity, and generalizability of the research findings, offering both interpretive insight and empirical evidence.

3.2 Population and Sample

The qualitative sample includes participants covering the full spectrum of the dance ecosystem to ensure diversity and representativeness. Participants include four senior educators with over twenty years of experience, one national actor, two cultural scholars, two cross-disciplinary artists, and three groups of students at undergraduate and graduate levels. These individuals were purposefully selected to capture perspectives across teaching, performance, artistic creation, and academic research. For the quantitative phase, data were collected from 525 valid respondents through stratified sampling. The sample encompassed a balanced distribution across gender, age, education, region, and occupation. This diverse population ensured that the quantitative findings reflected the broad social and cultural environment influencing the inheritance and development of Han and Tang classical dance.

Table 1 Research Design

Qualitative Research	The objective of the qualitative research is to explore the inheritance and future development path of the Han and Tang classical dance schools through qualitative material literature analysis and semi-structured interviews, to explore the core issues and practical experience of the Han and Tang classical dance schools in inheritance and development, to provide a basis for hypothesis, and to construct a theoretical framework.		
	1.Data Collection	First-Hand Data	Semi-structured interviews were conducted with school inheritors, scholars and experts, educators, students and dancers, cultural policy makers, audiences and enthusiasts.
		Used Data	Documentary materials related to important meetings related to the school's development, such as meeting minutes, personal public interview records, dance scripts, directors' statements, etc.
			Used data from each platform's official website, Internet news, and reports from each platform.
	2.Data Analysis	The grounded theory analysis method is adopted, including open coding, axial coding, and selective coding, to analyze and understand the inheritance path and future development strategy of the Han and Tang classical dance school. Open coding stage: Analyzing the first-hand and second-hand integrated materials word by word, as well as identifying and summarizing preliminary concepts and categories. Axial coding stage: classify and organize these concepts and categories to reveal the relationship and structure between them. Selective coding stage: further integrate these relationships and construct a core theoretical framework. The objective of coding is to extract key inheritance paths and development strategies through a systematic analysis process, to provide a theoretical basis and	

		empirical support for the continuous inheritance and innovative development of the Han and Tang classical dance school.	
	3.Form Theoretical Model	Based on the coding results of the qualitative research, a theoretical framework of the explanatory model was constructed, including concepts, dimensions and clarifying the relationships between them.	
Quantitative Research	The quantitative research uses a questionnaire survey method to collect and analyze data to verify the validity and reliability of the theoretical framework of the inheritance and development strategies of the Han and Tang classical dance schools extracted from the qualitative research. Through statistical analysis methods, the relationship between various concepts and dimensions is evaluated to ensure that the theoretical framework has universal applicability and practical guidance.		
	1.Questionnaire Development	Based on the theoretical framework formed in the qualitative research and the relevant theories in the literature review, corresponding hypotheses were proposed, and then comprehensive considerations were made to design questionnaire items to ensure that they could measure key concepts and dimensions.	
		Pre-test the questionnaire, analyze the item factors, and test the reliability and validity of the questionnaire. To ensure the consistency and rationality of the questionnaire, double validity testing (structural validity and content validity) is performed during the validity testing.	
		Revise the developed questionnaire and delete the items that do not meet the requirements.	
	2.Sample Selection	Choose the appropriate distribution method and target groups for the questionnaire survey. These groups may include Han and Tang classical dance professionals, students, audiences, scholars, and relevant personnel from government cultural departments. Ensure that the sample is representative.	
	3.Data Analysis	Descriptive Statistics	Descriptive statistics such as the mean and standard deviation of each questionnaire item were calculated to judge the dispersion and strength of the collected questionnaire data.
		Reliability and Validity Testing	Reliability and validity tests were conducted based on the data collected from the formal questionnaire to truly ensure that the questionnaire items can effectively measure the preset concepts and dimensions.
		ANOVA Analysis	Analyze the classification of the population that received the returned questionnaires to test whether there are obvious differences and consider whether it is necessary to add control variables.
Regression Analysis		Regression analysis was used to verify whether each hypothesis was established.	
Results Integration and Comprehensive	Through quantitative research, verify whether the hypotheses proposed in the qualitative research are support, and modify and improve the theoretical model based on the data analysis results to ensure the reliability and applicability of the		

Analysis	theoretical framework, providing a scientific basis and practical guidance for the inheritance and development strategies of the Han and Tang classical dance schools.
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3.3 Research Instruments

Two primary research instruments were employed in this study: a semi-structured interview guide for the qualitative phase and a structured questionnaire for the quantitative validation. The semi-structured interview guide focused on four major areas, development context, teaching system, innovation path, and communication methods of the Han and Tang classical dance school. Interview questions were flexibly adjusted based on the flow of discussion to encourage deeper insights. The qualitative data were analyzed using NVivo 15 software following the coding procedures of grounded theory. During open coding, 310 initial concepts were extracted and summarized into 18 categories. Through axial coding, these categories were integrated into three major dimensions: core elements of artistic inheritance, adaptation to contemporary development needs, and multi-channel dissemination and promotion systems. The final stage of selective coding refined these dimensions into the core category of “constructing the ecological system for the inheritance and development of Han and Tang classical dance.” A theoretical saturation test was subsequently conducted with multidisciplinary experts, confirming that no new concepts emerged and that the theoretical framework was stable and comprehensive. For the quantitative phase, the structured questionnaire was developed based on the results of the qualitative analysis and exploratory factor analysis. The questionnaire consisted of four sections, covering core factors, supporting factors, key factors, and evaluation of school development and inheritance effectiveness. Reliability testing indicated a Cronbach’s α coefficient of 0.709 for the overall instrument, with each dimension exceeding 0.7, confirming strong internal consistency. The KMO values ranged between 0.661 and 0.821, verifying the structural validity of the questionnaire.

3.4 Data Collection

The qualitative data were collected through a combination of interviews and secondary data analysis. The secondary data included subject literature, conference proceedings, dance scripts, and media reports, providing extensive contextual and theoretical support for the research. In total, the corpus comprised approximately 110,000 words of reports, 118 scholarly articles, more than 300 minutes of recorded interviews and meetings, and 10 dance scripts with accompanying director commentaries. These data sources enriched the understanding of the historical and practical dimensions of Han and Tang classical dance. For the quantitative phase, the questionnaire survey was distributed through both online and offline channels, enabling broad participation from diverse regions and professional backgrounds. Data collection strictly followed ethical standards, including voluntary participation, informed consent, and confidentiality of respondents’ information.

3.5 Statistics Used for Data Analysis

Data analysis was conducted in two stages corresponding to the mixed-method design. In the qualitative stage, NVivo 15 software was used to code and analyze textual data through open, axial, and selective coding, leading to the emergence of core categories and their interrelationships. Theoretical saturation testing confirmed the model’s comprehensiveness and stability. In the quantitative stage, statistical analyses were carried out using SPSS 26.0 and AMOS 24.0 software. Exploratory Factor Analysis (EFA) was employed to identify latent constructs, while reliability and validity were tested through Cronbach’s α , KMO, and Bartlett’s tests. Descriptive statistics were used to analyze demographic data, and correlation and regression analyses were performed to test the

proposed hypotheses and examine the relationships among key variables. The combination of these analytical methods ensured that both the qualitative findings and quantitative verification supported the construction of a robust, empirically grounded framework for understanding the inheritance and development of Han and Tang classical dance.

4. Data Analysis and Findings

4.1 Introduction

This chapter presents the findings of the study on the inheritance and development of Han and Tang classical dance, based on the results of both qualitative and quantitative analyses. The qualitative phase explored the cultural connotation, artistic essence, and pedagogical system of Han and Tang classical dance, identifying key themes that underpin its sustainability. These qualitative insights were then used to construct a theoretical model, which was subsequently tested through quantitative data using Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). The findings are organized into three main dimensions: core factors, supporting factors, and key factors, followed by an analysis of group differences and the explanatory power of the proposed model. Together, these results provide a comprehensive understanding of the mechanisms driving the preservation, innovation, and dissemination of Han and Tang classical dance.

4.2 Data Analysis of the Qualitative Data

The qualitative analysis revealed that cultural connotation and physical training form the cornerstone of Han and Tang classical dance inheritance. Interview data emphasized that the integration of emotional expression and technical precision is essential for cultivating artistic authenticity. These insights were empirically validated through EFA and CFA results, where factor loadings ranged from 0.768 to 0.818 in the EFA and 0.814 to 0.827 in the CFA, confirming the reliability and internal consistency of the core constructs. The results indicate that “inheritance and innovation” function as the central driving force of cultural activation. Among the dimensions, emotional expression (loading 0.778) and body control (loading 0.808) were identified as critical indicators. The CFA results showed an Average Variance Extracted (AVE) of 0.719, exceeding the 0.5 threshold, suggesting that maintaining equilibrium between technical rigor and emotional transmission is vital for effective training outcomes.

Supporting factors were identified as the synergistic effect of communication channels and interdisciplinary cooperation. The analysis showed that digital and network platforms (loading 0.764) and international exchanges (loading 0.670) play a significant role in enhancing communication effectiveness. However, regional disparities were observed, with western regions showing greater advantages in physical training resource investment (mean = 3.103) compared with central regions (mean = 2.894). Moreover, cross-border cooperation (loading 0.857) emerged as the core element of interdisciplinary development. Nevertheless, qualitative interviews revealed ongoing challenges related to the distribution of disciplinary dominance, highlighting the need for balanced collaboration between dance, technology, and cultural studies disciplines.

Key factors emphasized the dual-track drive of innovation and talent cultivation. The results demonstrated that creative innovation (loading 0.864) and communication innovation (loading 0.797) exert a significant influence on the inheritance effect ($\beta = 0.135$, $p < 0.01$). Although innovation is a major force for revitalizing traditional culture, qualitative findings caution against the potential risk of cultural dilution caused by excessive commercialization and entertainment-oriented adaptations.

In terms of talent cultivation, dance skill mastery (loading 0.852) and course satisfaction (loading 0.809) were identified as essential evaluation indicators. Statistical analysis further revealed that respondents with master's degrees demonstrated significantly higher recognition of the training model ($F = 92.146$, $p < 0.01$), underscoring the importance of academic advancement in the promotion and sustainability of classical dance education.

4.3 Summary of the Results

The quantitative findings revealed significant group differences across gender, education, and occupation, further enriching the qualitative insights. Female respondents rated dissemination ($t = 10.656$, $p < 0.01$) and supporting factors ($t = 13.132$, $p < 0.01$) significantly higher than their male counterparts, although men were found to play a more prominent role in innovation and development processes. Regarding educational background, participants with master's degrees or higher performed better in evaluating school development (mean = 3.538 vs. 2.688 for below undergraduate) and interdisciplinary cooperation (mean = 3.210 vs. 2.917 for undergraduates). Occupational differences also showed that professional practitioners scored higher than the general public in evaluating dissemination ($F = 4.215$, $p < 0.01$) and interdisciplinary cooperation ($F = 4.653$, $p < 0.01$).

The overall regression model demonstrated that the three dimensions, core, supporting, and key factors, jointly explained 6.1% of the variation in school development evaluation ($R^2 = 0.061$). Although this indicates a modest explanatory power, it highlights the need for future studies to include additional variables such as policy support, cultural funding, and institutional management mechanisms. Moreover, since the sample primarily consisted of participants from within China, the absence of extensive international data limits the generalizability of findings regarding global communication effects. Future research should thus expand the scope of data collection to include more cross-cultural samples and longitudinal designs, thereby strengthening the explanatory capacity of the proposed model and deepening the understanding of Han and Tang classical dance inheritance and innovation within the broader global cultural context.

5. Conclusion, Discussion, and Recommendation

5.1 Conclusion

Based on the systematic study of the Han and Tang classical dance schools, this research employed a mixed-methods approach combining qualitative grounded theory and quantitative validation to explore the inheritance and development mechanisms of this traditional art form. The study yielded four major findings: (1) the sustainable development of Han and Tang classical dance must be rooted in profound cultural connotation; (2) it should be driven by an innovation balance that harmonizes tradition and modernity; (3) it requires a solid guarantee through systematic talent training; and (4) it must establish an ecological closed loop through diversified communication channels and interdisciplinary cooperation. In essence, inheritance is not merely the continuation of movement techniques but a “cultural reproduction process that activates historical memory through physical practice.”

This research represents the first quantitative verification of the shaping effect of “cultural genes” on the formation and evolution of dance categories, highlighting how cultural inheritance in dance functions as both a historical and creative act. Only through the combination of historical depth, technical precision, and contemporary breadth can the eternal charm of traditional Chinese art

be fully demonstrated in the context of global cultural competition. Thus, the inheritance of Chinese Han and Tang classical dance transcends the preservation of physical movement, it embodies the modern expression of the genes of Chinese civilization. Through a comprehensive integration of qualitative and quantitative data, this study reveals the multi-dimensional driving logic of inheritance and proposes a development path characterized by cultural rooting, innovation-driven transformation, and ecological synergy. In the future, sustained exploration through the cyclical interaction of theory and practice will enable this ancient art to achieve a renaissance within globalization and contribute unique Chinese wisdom to the dialogue of human civilizations.

5.2 Discussion

The research results not only verified the scientific rigor and practical applicability of the proposed theoretical model but also provided valuable insights for optimizing the inheritance and development of Han and Tang classical dance schools. From a theoretical perspective, the study first confirmed the validity of the model. Quantitative analysis verified the positive influence of core, supporting, and key factors on the evaluation of school inheritance and development, aligning with the qualitative findings and thereby reinforcing the reliability and internal consistency of the theoretical framework. Secondly, the study clarified the impact mechanism of each factor. Regression results demonstrated that core factors exerted the strongest influence, followed by key factors, with supporting factors being relatively weaker. This hierarchy quantitatively illustrates the internal mechanism driving school development. Thirdly, the study expanded the analytical perspective by revealing how gender, educational level, region, and occupation significantly affect the evaluation of school development, thereby offering new avenues for future scholarly inquiry.

From a practical standpoint, the findings yield several important implications. First, in optimizing development strategies, institutions should prioritize the enhancement of core factors such as deepening cultural connotations, improving physical training quality, and enriching expressive abilities. At the same time, strengthening supporting factors, including expanding communication channels and promoting interdisciplinary cooperation, is essential for broadening influence. Second, emphasis should be placed on constructing key factors, particularly by promoting innovation and developing comprehensive talent training systems. Third, differentiated policies should be formulated to support groups with higher recognition of school development, including women, highly educated individuals, eastern regions, and professional practitioners. Lastly, practical application capabilities should be strengthened by integrating innovative pedagogical approaches, applying theoretical knowledge to teaching practice, and enhancing problem-solving abilities. These initiatives will collectively elevate the social influence and cultural recognition of Han and Tang classical dance in contemporary practice.

Nevertheless, the study acknowledges several limitations that invite further reflection. The explanatory power of the regression model remains modest, with core, supporting, and key factors jointly explaining only 6.1% of the variation in inheritance effects ($R^2 = 0.061$). This indicates that additional external variables, such as policy support, economic investment, and market feedback, should be incorporated into future research frameworks. Moreover, the sample was geographically concentrated in China, lacking sufficient international representation. This limits understanding of how Han and Tang classical dance is perceived and adapted by overseas audiences. Future studies should therefore broaden their international sampling to explore adaptive strategies in global contexts, facilitating the transition from “cultural output” to “value sharing.”

5.3 Recommendation

To promote the sustainable inheritance and development of Han and Tang classical dance, this study proposes three sets of strategic recommendations, covering inheritance, development, and policy management.

1) Inheritance Strategy:

A solid cultural foundation must be established by systematically organizing historical documents, cultural relics, and archaeological evidence to substantiate the historical basis of dance creation. Educational reforms should integrate cultural and technical dimensions by constructing a dual-track curriculum of “technology & culture.” At the technical secondary level, general education courses on Han and Tang culture should be embedded, while at the undergraduate and postgraduate levels, interdisciplinary projects such as “dance & archaeology” should be introduced. Standardized teaching materials and training outlines must be developed to ensure balance between movement norms and cultural interpretation. Additionally, government special funds should be established to subsidize inheritors’ participation in international performances and academic exchanges. A dual-mentor system comprising “inheritors & scholars” should be developed to enhance teachers’ professional competencies and strengthen pedagogical quality.

2) Development Strategy:

Innovation and internationalization should serve as the dual engines of development. Efforts should be intensified to utilize digital platforms for cultural transmission by developing short video challenges, VR-based online courses, and interactive media content. These digital outputs must be culturally authentic, requiring clear identification of cultural symbols to prevent entertainment-driven dilution of meaning. Participation in international art festivals and cultural dialogues should be encouraged to increase visibility and foster the transformation from “cultural output” to “value sharing,” thereby positioning Han and Tang classical dance as a vital component of global cultural exchange.

3) Policy and Management:

An ecological coordination mechanism should be established to ensure sustainable collaboration among schools, government bodies, and cultural institutions. The government can create an intangible cultural heritage fund to subsidize creative production, research, and international cooperation. Preferential digital traffic policies should be implemented to support high-quality short video projects that promote traditional culture. Furthermore, a comprehensive digital resource library should be developed to integrate documents, cultural relics, and dance works, enabling open access through cloud sharing platforms. Partnerships among eastern, central, and western universities should be formed to achieve resource balance via remote master classes and faculty exchanges, thereby optimizing national teaching resources.

Through the integrated strategies of cultural grounding, innovative transformation, and ecological synergy, Han and Tang classical dance can achieve “living inheritance” in the global era. This approach not only revitalizes traditional art but also provides a modern paradigm for the dynamic transformation of intangible cultural heritage, reinforcing the cultural confidence and international influence of Chinese civilization.

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Research on the Role Dilemma and Coping Strategies of College Counselors in the Psychological Crisis Intervention of College Students

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Abstract

In recent years, the growing prevalence of psychological crises among university students has become a significant concern, posing serious challenges to both educational management and social stability. This study investigates the dilemmas, theoretical foundations, and practical strategies of university counselors in psychological crisis intervention. Employing a mixed-methods approach, the research integrates quantitative data from 480 valid questionnaire responses analyzed through SPSS 27.0 with qualitative insights derived from semi-structured interviews. The results reveal that while counselors recognize the importance of crisis intervention, their practical skills and institutional support remain insufficient. Major issues include limited professional competence, excessive administrative responsibilities, weak coordination among departments, and inadequate policy and resource allocation. The study highlights the need for systematic optimization of crisis intervention mechanisms through the establishment of a dynamic early warning system, role clarification, and interdepartmental coordination. A tiered professional training framework is recommended to enhance counselors' theoretical knowledge, practical skills, and innovation capacity. Additionally, a long-term multi-party collaboration mechanism among families, schools, and communities should be developed to ensure effective resource integration and information sharing. Continuous evaluation and feedback systems are also proposed to maintain the adaptability and sustainability of intervention practices. The findings contribute both theoretical and practical insights to the field of university mental health management, providing a comprehensive framework for improving the efficiency and professionalism of psychological crisis intervention. Ultimately, the study aims to support the construction of a more resilient and inclusive mental health education system in higher education institutions, promoting student well-being and fostering a stable and harmonious campus environment.

Keywords: Psychological Crisis Intervention, University Counselors, Mental Health Management, Professional Training, Multi-Party Collaboration

1. Introduction

1.1 Background and Importance of the Problem

In recent years, the prevalence of psychological issues among university students has been increasing rapidly. Frequent mental health crises have not only disrupted students' academic performance and personal lives but also posed serious challenges to university management and broader social stability. The growing psychological distress among students, manifested in anxiety, depression, self-harm, and suicide, reflects the urgent need for more effective crisis intervention and support systems within higher education institutions. College counselors play a critical role in identifying, preventing, and responding to students' psychological crises. They act as a bridge between students and institutional mental health resources, providing emotional support, crisis management, and follow-up care. However, current response mechanisms often reveal significant deficiencies, such as insufficient professional training, lack of standardized procedures, limited institutional support, and inadequate coordination among departments. Theoretically, investigating counselors' dilemmas and strategies in psychological crisis intervention can enrich the field of mental health education in universities. It clarifies the legitimacy and scope of counselors' roles in psychological support, enhances theoretical frameworks guiding their interventions, and contributes to the professionalization of counseling services. Practically, this study provides actionable insights to improve crisis intervention strategies, strengthen counselor competencies, safeguard student well-being, and promote harmonious and stable campus development.

1.2 Research Question

To address the existing problems and gaps in current practice, this study aims to answer the following central questions:

- 1) What are the main dilemmas and challenges faced by university counselors in intervening during students' psychological crises?
- 2) What are the existing models and theoretical foundations guiding counselors' crisis interventions?
- 3) What practical strategies can be developed to enhance the effectiveness of university counselors' psychological crisis interventions?

1.3 Research Objective

Based on the above research questions, the objectives of this study are as follows:

- 1) To identify and analyze the key dilemmas counselors face in psychological crisis intervention among university students.
- 2) To examine the theoretical underpinnings and international practices related to psychological crisis intervention.
- 3) To propose effective strategies and mechanisms to strengthen counselors' roles and capabilities in psychological crisis intervention.

4) To contribute theoretical and empirical insights to the field of higher education mental health management.

2. Literature Review

2.1 Related Concepts and Theories

Psychological Crisis

Caplan (1974) was among the first to define a psychological crisis as a state of emotional imbalance resulting from an individual's inability to cope effectively with a stressful event. Later, Baldwin (1978) categorized crises into six types, while Parry identified eight characteristics of crises. In China, scholars such as Liao Guifang et al. (2007) have described psychological crises from the perspectives of emotion, cognition, behavior, and physiology.

Crisis Intervention Theory

Theories such as Caplan's Equilibrium Model, the Cognitive Model, and the Psychosocial Transition Model provide foundational frameworks for understanding and managing crisis situations. These models emphasize restoring psychological balance, reconstructing cognitive understanding, and facilitating adaptive coping mechanisms.

Counselor's Role Theory

The role of counselors has evolved from ideological and political education toward multifaceted responsibilities that include psychological support and crisis intervention. Xu Nini (2020) emphasized the need for integrated competencies encompassing emotional counseling, communication, and mental health education.

2.2 Literature Surveys

Domestic Studies

Since Professor Zhai Shutao initiated crisis intervention and suicide prevention research in 1985, Chinese scholarship in this area has advanced significantly. Chen Xinxing (2016) analyzed the connotation, types, and causes of college students' psychological crises. Wu Ping (2018) identified psychological defects, life events, and environmental factors as key causes. Recent studies, such as Yan Peng (2023), highlight that crisis intervention should aim for post-traumatic growth, helping students develop resilience after crisis experiences.

International Studies

Abroad, research on psychological crises began with grief and trauma studies. The United States has developed comprehensive crisis management systems, such as Crisis Assessment Teams and Student Assistance Programs (SAP). Theoretical models including the TAT model and SAP model guide institutional responses. Western literature also emphasizes inter-professional collaboration, institutionalized response protocols, and counselor specialization.

Overall, while international research provides robust theoretical and procedural frameworks, domestic studies must adapt these models to local educational, cultural, and policy contexts.

2.3 Conceptual Framework

Based on the literature, the conceptual framework for this study consists of three core elements:

Input Factors: Counselor competencies (knowledge, skills, training), institutional support, and crisis recognition mechanisms.

Process Factors: Intervention activities, communication strategies, and collaboration mechanisms.

Output Factors: Effectiveness of crisis resolution, improvement in student well-being, and counselor professional development.

These elements interact dynamically, forming a system in which feedback from outcomes informs future improvement of intervention strategies.

2.4 Research Hypothesis

To guide empirical analysis, the following hypotheses are proposed:

H1: Higher levels of professional training among counselors positively influence the effectiveness of psychological crisis intervention.

H2: Institutional support and standardized crisis management systems positively affect counselors' intervention capabilities.

H3: Effective communication and interdepartmental collaboration enhance the overall efficiency of psychological crisis interventions.

H4: Counselors' intervention effectiveness contributes positively to students' post-crisis psychological recovery and growth.

3. Research Methodology

3.1 Research Design

This study employs a mixed-methods approach, combining quantitative surveys and qualitative interviews to comprehensively examine counselors' experiences and strategies. Quantitative data will measure the relationships among counselor competencies, institutional support, and intervention effectiveness, while qualitative data will provide contextual understanding of the dilemmas and coping strategies.

3.2 Population and Sample

The study population consists of university counselors from both public and private universities across China. Stratified sampling will ensure representation by region, university type, and counselor experience level. Approximately 300 valid questionnaires will be collected, and 15 counselors will be selected for in-depth interviews.

3.3 Research Instruments

Questionnaire: Structured with Likert-scale items measuring counselor competence, institutional support, and intervention outcomes.

Interview Guide: Semi-structured questions focusing on practical dilemmas, emotional experiences, and perceived effectiveness of interventions.

Validity and Reliability: Instruments will be validated by experts in psychology and education, and Cronbach's alpha will assess reliability.

3.4 Data Collection

Data will be collected in two stages: (1) distribution of questionnaires via online survey platforms, and (2) follow-up interviews with selected participants. Ethical considerations, including confidentiality and informed consent, will be strictly observed.

3.5 Statistics Used for Data Analysis

Quantitative data will be analyzed using SPSS and AMOS software. Descriptive statistics, correlation analysis, and structural equation modeling (SEM) will test the proposed hypotheses. Qualitative data will be coded thematically to identify recurring patterns related to counselors' dilemmas and strategies. Integration of findings will provide a comprehensive understanding of the research problem.

4. Data Analysis and Findings

4.1 Introduction

This section presents the data analysis and key findings of the study on the current status, challenges, and influencing factors of university counselors' roles in the psychological crisis intervention of college students. The analysis integrates both quantitative and qualitative data, enabling a comprehensive understanding of the research problem. Quantitative data were obtained through a structured questionnaire distributed via the Wenjuanxing online platform, yielding 480 valid responses with a recovery rate of 96%. The data were processed and analyzed using SPSS version 27.0, employing descriptive statistical analysis to summarize the demographic characteristics of respondents, their cognitive understanding, intervention measures, and existing challenges in psychological crisis intervention. The quantitative findings focus primarily on the distribution of counselors' gender, age, and work experience, along with their level of understanding of psychological crisis intervention, the frequency of different intervention measures, and perceived difficulties in implementing interventions. These results help identify structural patterns in the counselor population and highlight critical areas requiring improvement, particularly in professional knowledge, crisis identification, and resource coordination. To complement the quantitative results, qualitative data were collected through semi-structured in-depth interviews with selected counselors. These interviews provide deeper insights into counselors' role perceptions, challenges faced during crisis intervention, and reflective analyses of typical cases. The qualitative findings not only validate the survey results but also reveal the underlying causes of counselors' dilemmas, including the imbalance between administrative and psychological work, insufficient professional competence, weak institutional support, and deficiencies in cross-departmental collaboration. Overall, the mixed-

methods data analysis offers a multi-dimensional understanding of the current situation of psychological crisis intervention in universities. The findings form the empirical foundation for the subsequent discussion and the development of targeted optimization strategies and recommendations aimed at enhancing counselors' professional capacity, strengthening institutional mechanisms, and promoting a coordinated, systematic approach to student psychological crisis management in higher education institutions.

4.2 Data Analysis of the Quantitative Data

Table 1 Statistics of Basic Information of Counselors Participating in the Survey

Classification	Type	Quantity (n=480)	Percentage (%)
Gender	Men	216	45
	Female	264	55
Age	Under 25 Years Old	96	20
	26-30 Years Old	240	50
	31-40 Years	120	25
	Over 40 Years Old	24	5
Years of Work Experience	<3 Years	120	25
	3-5 Years	192	40
	>5 Years	168	35

This study collected 480 valid questionnaires (response rate 96%) using the Wenjuanxing platform and analyzed the data using SPSS 27, aiming to comprehensively understand the current situation, problems, and causes of counselors in intervening in college students' psychological crises. In terms of basic information about counselors, female counselors account for 55%, those aged 26-30 make up 50%, and counselors with 3-5 years of work experience account for 40%. This indicates that the counselor workforce is predominantly female, has a young age structure, and a distribution of work experience, with younger counselors relatively weak in professional skills for psychological crisis intervention.

Table 2 Understanding of Psychological Crisis Intervention by Counselors

Cognitive Project	Very Well Understood (n)	Understood (n)	General (n)	Not Very Familiar (n)	Completely Do Not Understand
Definition of Psychological Crisis	160	180	72	29	3
Crisis Recognition Ability	120	180	96	34	0
Mastering Intervention Techniques	96	180	120	34	0

From the Table 2, it can be seen that in terms of the cognitive level of psychological crisis intervention, although most counselors have some understanding of the definition of psychological crisis, there are significant shortcomings in crisis identification ability and mastery of intervention skills. Only 62.5% of counselors have a high level of crisis identification ability, and 57.5% of counselors have a good grasp of intervention skills. This means that some counselors find it difficult to accurately identify students' psychological risks in their actual work and lack effective intervention methods.

Table 3 Psychological Crisis Intervention Measures Taken by Counselors

Intervention Measures	Frequently Used (n)	Occasional Use (n)	Almost Unused (n)
One-On-One Consultation	216	168	96
Group Counseling	144	192	144
Family Communication	96	216	168
Referral to Specialized Institutions	120	216	144

From the Table 3, it can be seen that there are differences in the use of intervention measures such as one-on-one counseling, group guidance, family communication, and referral to professional organizations. 45% of counselors frequently use one-on-one counseling, 30% frequently organize group guidance, 20% often communicate with families, and 25% frequently refer to professional organizations. The use of different intervention methods is constrained by various factors, such as resource limitations and professional capabilities. A survey on students' satisfaction with psychological crisis intervention shows that 87.5% of students expressed at least some satisfaction, but 25% rated it as 'average,' and 13.8% gave negative feedback. This reflects that while the intervention work has been effective, there is still room for improvement in areas such as insufficient professional knowledge, lack of personalized intervention measures, and poor communication. Counselors face many difficulties in the intervention process, with 51.7% believing they lack professional knowledge, 43.6% feeling they do not have enough time, 40.2% experiencing significant psychological pressure, and 32.1% indicating a lack of support systems. These difficulties seriously impact the implementation of psychological crisis intervention work. A survey of counselors' needs found that 67.71% require professional skills training, 62.92% desire the dissemination of mental health knowledge, and 45.21% hope to learn time management skills. Additionally, counselors also have needs in areas such as emotional management guidance, management support, and cross-cultural communication skills. At the same time, the research found that female students are more likely to exhibit psychological problems than male students, and only children have a slightly higher proportion of all types of psychological issues compared to non-only children. This suggests that counselors should fully consider the differences in students' gender and family structure when designing intervention strategies.

4.2.1 In-depth Interviews and Analysis

1) Role Awareness and Positioning Dilemma In terms of role awareness, counselors generally see themselves as guides for student life and guardians of mental health, needing to fulfill the dual responsibilities of supporter and educator, with some also taking on administrative duties. As a counselor with 8 years of experience pointed out: "We need to listen to students like friends while guiding them to solve problems as educators, and at the same time handle various administrative tasks, which often leaves us feeling overwhelmed." However, faced with severe psychological crisis events, a lack of professional knowledge becomes a prominent contradiction. In interviews, 12 counselors (80%) indicated that they felt anxious and helpless when dealing with complex cases involving suicidal tendencies and mental illnesses due to a lack of professional skills, expressing a strong desire for systematic professional training.

2) Challenges in Implementing Intervention Strategies In the implementation of intervention strategies, one-on-one psychological counseling is the most commonly used and deemed the most effective method. A counselor with 5 years of experience shared a case: "There was a student who developed depressive feelings due to academic pressure. Through 8 weeks of one-on-one counseling,

combined with academic planning guidance, the student was ultimately helped to overcome the difficulties." However, in cases involving family factors, there is often resistance to family communication. For example, a counselor encountered a student whose psychological crisis was triggered by family conflicts, but the parents rejected the intervention due to misconceptions about mental health issues, leading to significantly reduced counseling effectiveness. Professional referrals also face numerous problems. Interviews indicated that the complex referral process, long waiting times, and incomplete follow-up mechanisms are the main obstacles. Some counselors reported: "I once referred a severely depressed student to a professional hospital, but due to the long waiting time for a bed, the student's condition worsened, exposing the gaps in the referral mechanism."³. In-depth Analysis of Typical Cases

Case 1: Empirical Analysis Based on Insufficient Timeliness of Crisis Identification and Intervention In a psychological health crisis event at a certain university, Counselor A was responsible for handling a case of a student who showed suicidal tendencies due to a breakup. After experiencing emotional distress, the student exhibited overt crisis signals, such as social withdrawal and a sudden drop in academic performance. However, Counselor A, lacking systematic crisis assessment training, failed to promptly identify the student's suicide risk level based on key indicators from the 'Psychological Crisis Risk Assessment Scale,' such as prolonged low mood and significant impairment in social functioning. According to a retrospective analysis of the event, there was a time gap of up to 72 hours from the student first displaying abnormal behavior to the initiation of formal intervention procedures, far exceeding the golden response period for psychological crisis intervention (within 48 hours). Although the student was eventually brought to safety through collaborative efforts, this incident revealed significant shortcomings among young counselors in sensitivity to crisis identification, accuracy of risk assessment, and timeliness of emergency response. This phenomenon corroborates the earlier survey showing that 51.7% of counselors reported a lack of professional knowledge, highlighting the current gap in the counselor training system regarding crisis warning technology modules.

Case 2: The Dilemma of Complex Crisis Intervention under a Lack of Professional Support Counselor B demonstrated strong resource integration abilities and a sense of responsibility when handling a crisis event involving a student diagnosed with schizophrenia. Based on the 4R theory of crisis management, he systematically constructed a three-tiered intervention network that included initial diagnosis by the school hospital, referral to professional mental health institutions, and collaborative supervision by parents. He also created a personalized rehabilitation plan according to the individual symptom characteristics of the patient. However, in the subsequent management of the illness, due to the school's failure to establish a regular psychiatric professional supervision mechanism, when the student exhibited behavioral abnormalities caused by side effects of medication, Counselor B could not obtain timely professional guidance. Analysis of interview records indicated that this counselor relied more on personal experience and limited psychological knowledge when dealing with such issues, resulting in delays in adjusting intervention strategies. This case further validates the previous research conclusion regarding the inadequacy of crisis intervention support systems in higher education institutions, only 28% of universities have established stable external expert supervision teams, reflecting significant shortcomings in the construction of specialized and systematic crisis intervention support networks in current higher education institutions.

4.2.2 The Current Situation of Counselors in the Intervention of Psychological Crises among College Students

The roles of counselors in the intervention work related to psychological crises among college students include being discoverers of psychological crisis issues, coordinators of handling, and followers and positive influencers in the post-intervention stage. They understand student situations through daily contacts, timely detect problems and intervene, coordinate various resources in crisis event management, pay attention to students' subsequent recovery, and guide students in establishing correct views and creating a positive atmosphere in various ways. In terms of organization and development, many universities have incorporated mental health education into the ideological and political education system for college students, centering the work around counselors, clarifying work objectives, improving relevant systems, and providing support for counselors in psychological crisis intervention.

4.2.3 The Dilemmas Faced by Counselors in the Psychological Crisis Intervention for College Students and their Causes

Realistic Dilemmas Faced by Counselors

In terms of the imbalance in energy allocation for college students' psychological crisis intervention, counselors invest widely and continuously in their work time, experiencing a heavy workload with excessive administrative tasks, making it difficult to find time to participate in psychological crisis intervention. The increasing complexity and difficulty of psychological crisis intervention work, along with the diversity of student thoughts and the influence of online information, heightens the pressure on counselors, and their abilities struggle to keep up. The professional shortcomings of college counselors are reflected in the lack of a professional knowledge system for psychological crisis intervention; most counselors do not come from psychology backgrounds, leading to insufficient knowledge reserves and an inability to adapt to work requirements. Additionally, there is a lack of practical experience, with younger counselors lacking experience, unclear role positioning, and an incomplete training system in colleges. There is a cognitive bias and lack of support from universities regarding counselors' participation in psychological crisis intervention for college students. The structure of the counseling team is unreasonable, with inexperienced young counselors and an imbalance in gender ratio; there is a scarcity of internal resources in schools, inadequate professional support and supervision mechanisms, insufficient management support, weak external cooperation mechanisms, and low social emphasis on mental health.

Analysis of the Causes of the Dilemmas Faced by Counselors

Based on a theoretical framework, a deep analysis of the root causes of dilemmas shows that differences in educational background lead to weak professional foundations for counselors, a lack of continuous learning opportunities limits the enhancement of professional capabilities, and vague role positioning hinders the effective utilization of professional abilities. In terms of time and workload pressure, multiple responsibilities result in scarce time resources for counselors, and high priority for urgent events leads to task interference. Long-term high-pressure conditions result in physical and mental exhaustion. In terms of internal and external resource allocation, there are limited internal resources within the school, and there are unreasonable aspects in resource distribution; the external cooperation mechanism is weak, and the social support network is incomplete; there is insufficient support from management, and a lack of scientific and reasonable performance evaluation and incentive systems.

4.3 Summary of the Results

The results of the study provide a comprehensive overview of the current status, challenges, and influencing factors related to university counselors' involvement in psychological crisis intervention among college students. The findings indicate that while most counselors demonstrate a high level of awareness regarding the importance of psychological crisis intervention, their practical ability to implement effective strategies remains uneven. Quantitative data reveal that counselors generally possess a basic understanding of crisis identification, assessment, and referral processes; however, there are significant differences in their confidence and skill levels depending on factors such as professional background, years of experience, and access to institutional training. The study also finds that the majority of counselors rely heavily on traditional intervention measures, such as direct counseling and referral to mental health centers, while systematic and preventive mechanisms, including early warning systems, peer support networks, and data-driven monitoring, are underdeveloped in most universities. Moreover, although universities have established certain frameworks for psychological crisis management, the coordination among departments (e.g., academic affairs, student affairs, and mental health offices) remains insufficient, leading to communication delays and reduced intervention effectiveness. From the qualitative analysis, several major challenges emerge. Counselors often face role conflict between administrative duties and psychological support responsibilities, which limits their time and energy for proactive crisis intervention. Additionally, insufficient professional training and the lack of clear evaluation and reward mechanisms for mental health work contribute to varying intervention quality. Many counselors express the need for enhanced institutional support, interdepartmental collaboration, and resource integration involving families, communities, and hospitals. Overall, the results highlight a mismatch between counselors' awareness and their operational capacity, reflecting systemic issues within the institutional structure of psychological crisis management. The study concludes that to improve the efficiency and sustainability of crisis intervention, universities must strengthen professional training systems, establish dynamic monitoring and early warning mechanisms, optimize coordination among stakeholders, and provide consistent policy and resource support. These findings form the basis for the strategic recommendations presented in the following section.

5. Conclusion, Discussion, and Recommendation

5.1 Conclusion

The optimization of psychological crisis intervention mechanisms in universities is of vital importance to the mental health management of college students. The study highlights several core strategies to enhance the overall system, including the establishment of a scientific early warning classification system, clarification of counselors' roles and responsibilities, strengthening of counselors' professional competence, and the promotion of multi-party collaboration and resource integration.

Firstly, the establishment of a scientific and refined early warning classification system enables universities to maintain comprehensive psychological profiles for each student, integrating multidimensional data such as psychological assessments, growth experiences, and behavioral indicators. This approach facilitates the accurate identification of students at potential risk, allowing for early intervention and improved efficiency of crisis management.

Secondly, it is essential to clarify the responsibilities of counselors and delineate administrative and psychological duties. By minimizing administrative burdens, counselors can focus

more effectively on psychological crisis intervention and student guidance.

Thirdly, the enhancement of counselors' professional competence is central to improving intervention quality. Universities should implement systematic training programs aligned with the trend of professionalization, combining theoretical learning, case analysis, and simulation exercises. These efforts will strengthen counselors' theoretical foundations and practical capabilities in handling diverse psychological crises.

Fourthly, multi-party collaboration and resource integration must be prioritized. Universities should establish cooperative networks involving families, schools, and social organizations to create an interconnected support system. This collaborative approach ensures the seamless sharing of information, professional expertise, and resources, leading to more comprehensive and effective psychological crisis management.

Lastly, improving the incentive and support systems for counselors is fundamental to sustaining motivation and ensuring professional growth. Providing career development opportunities, adequate compensation, and mental health support for counselors can enhance their commitment and engagement.

In sum, these strategies collectively form a systematic and feasible framework for optimizing psychological crisis intervention in universities. They not only enhance theoretical understanding but also provide practical guidance for improving students' mental well-being and fostering a stable and harmonious educational environment.

5.2 Discussion

The findings of this study underscore that psychological crisis intervention in universities requires a systematic, professional, and collaborative approach rather than fragmented or reactive measures. The complexity of student mental health issues in contemporary academic environments necessitates a shift toward data-driven and evidence-based management mechanisms. The establishment of a dynamic early warning system exemplifies the integration of technology with psychological services, where big data analytics and intelligent assessment tools can detect risk indicators early. This aligns with the broader digital transformation trend in higher education management, promoting precision and timeliness in crisis intervention.

Moreover, the emphasis on professionalization of counselors reflects a global shift in mental health education, where universities are expected not only to provide training but also to institutionalize continuous professional development. The tiered training framework ("Novice–Backbone–Expert") proposed in this study ensures that counselors progress systematically, balancing theoretical mastery with practical experience. The multi-party collaborative framework, involving schools, families, and communities, demonstrates that mental health support cannot rely solely on internal university systems. Rather, it requires an ecosystemic approach that bridges the gap between education, healthcare, and social welfare sectors. Integrating external professional resources and forming regional alliances further strengthens the resilience and adaptability of university mental health systems.

Finally, the introduction of a dynamic evaluation-feedback-improvement mechanism ensures that crisis intervention remains a continuous and evolving process. Through regular assessments, feedback collection, and adaptive optimization, universities can institutionalize learning and innovation in their mental health systems. This continuous improvement cycle reflects a forward-

looking governance approach that is responsive to changing psychological needs among students.

5.3 Recommendation

Based on the conclusions and discussions above, several key recommendations are proposed to enhance the efficiency, sustainability, and systematic development of psychological crisis intervention in colleges and universities. First, it is essential to systematically optimize the psychological crisis intervention mechanism by building a dynamic early warning system. Universities should establish a three-tier mechanism of “daily monitoring–intelligent assessment–graded response” that relies on big data and machine learning algorithms to monitor behavioral and academic indicators. Through this system, crisis risk levels can be categorized into red, yellow, and blue for corresponding intervention measures. In addition, operational coordination must be strengthened by clarifying the roles of mental health centers, counseling offices, and class-level representatives. Standardizing work processes and establishing clear referral mechanisms will ensure effective communication and prompt response during psychological crisis management.

Second, universities should develop a tiered training system to enhance counselors’ professional capacity. A ladder-type capability development model can be introduced, consisting of three levels, Novice (basic intervention training), Backbone (advanced practice and case supervision), and Expert (research and innovation). To support professional growth, a closed training loop of “learning–practice–assessment” should be established, providing counselors with at least 80 hours of annual professional training, clinical internships, and opportunities for professional certification. Furthermore, intervention effectiveness should be incorporated into professional title evaluations to encourage counselors to maintain high standards and continuous improvement in their professional practice.

Third, it is necessary to establish a long-term mechanism for multi-party coordination and resource integration. Building a cooperative network among families, schools, and communities is crucial to creating a collaborative platform for information sharing and mutual accountability. Universities should form medical alliances with hospitals to ensure timely emergency support and collaborate with social organizations to organize mental health campaigns and campus cultural activities that promote awareness and prevention. Policy and resource guarantees should also be improved through the development of “Standards for Mental Health Education in Colleges,” which define staff-student ratios and establish dedicated supervision and funding systems for mental health research. At the provincial level, educational departments should lead the formation of mental health education alliances to promote expert sharing, resource exchange, and the creation of a regional database for crisis intervention cases.

Finally, a continuous dynamic optimization and evaluation mechanism should be implemented to ensure sustainable improvement of crisis intervention systems. Universities are encouraged to establish a feedback-driven improvement mechanism that conducts biannual evaluations of intervention effectiveness based on measurable indicators such as timeliness, satisfaction, and overall impact. Feedback from counselors, students, and parents should be systematically collected and compiled into “Psychological Crisis Intervention Improvement Reports” to guide future improvements. At the same time, universities should be encouraged to implement innovative pilot programs for localized crisis intervention models, with adequate funding and recognition for those demonstrating outstanding effectiveness. Educational authorities should regularly publish annual white papers summarizing key outcomes, best practices, and policy directions to promote continuous learning and enhancement of mental health education at the national level.

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The Management of Health Events and Activities for Promoting Public Health Awareness

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Abstract

Public health remains a fundamental component of individual well-being and societal progress, yet non-communicable diseases (NCDs) such as diabetes, hypertension, and obesity continue to rise in Thailand due to sedentary lifestyles, dietary changes, and urban living conditions. Health events, ranging from marathons to community wellness campaigns, have emerged as effective strategies to promote awareness, combining education with experiential engagement. This study examined how the management of health events influences public health awareness in Bangkok, focusing on three key dimensions: activity design, health communication, and resource management. Data were collected from 400 participants at major events held in Lumpini Park, QSNCC, and Impact Muang Thong Thani. Findings indicated that participants reported high levels of knowledge and positive attitudes toward health, whereas behavioral intentions were comparatively lower. Multiple regression analysis showed that activity design was the strongest predictor of public health awareness, followed by health communication and resource management. Event experience and participant engagement were found to mediate the relationship between event management practices and awareness outcomes, highlighting the importance of creating engaging and motivational experiences. The discussion emphasizes that while resources are necessary for effective event delivery, the quality of design and communication determines participant response. The gap between awareness and behavioral intention suggests that hybrid strategies, combining face-to-face experiences with digital follow-ups, may enhance long-term engagement and promote sustainable behavior change. Based on these findings, recommendations include prioritizing interactive activity design, employing multi-channel communication, strengthening resource planning, integrating health events into national strategies, and leveraging technology to reinforce awareness. Future research should explore longitudinal impacts, demographic variations, and the potential of technology-enabled interventions to further optimize health event outcomes.

Keywords: Public Health Awareness, Health Event Management, Activity Design, Health Communication, Behavioral Intentions

1. Introduction

1.1 Background and Importance of the Problem

Public health is a cornerstone of both individual well-being and social progress. In Thailand, as in many countries, the growing burden of non-communicable diseases (NCDs) such as diabetes, hypertension, and obesity illustrates how lifestyle patterns are shaping population health. Sedentary work routines, changes in diet, and urban living environments have created conditions that encourage these illnesses to flourish. The World Health Organization (2022) reports that NCDs now account for more than 70% of deaths worldwide, a statistic that resonates strongly with Thailand's current health profile. National surveys reinforce this concern. The Department of Health (2023) estimates that almost half of Thai adults fail to meet recommended levels of physical activity, whereas obesity rates continue to rise. These patterns highlight a persistent challenge: people may recognize health risks in theory, but translating awareness into long-term behavioral change is far more difficult. In response, health-related events, ranging from mass participation marathons to wellness expos and local community campaigns, have emerged as an increasingly popular strategy. Unlike traditional campaigns that rely heavily on passive media messaging, these events bring people together, blending education with direct experience. They not only provide information but also foster a sense of community and shared purpose, which can be a powerful motivator for change.

Yet questions remain. Many events are conducted as stand-alone activities with little sustained follow-up. Their ability to trigger lasting improvements in knowledge, attitudes, or behavior is not always clear. Moreover, organizing health events presents its own challenges: activities must be designed to resonate with diverse groups, messages must be communicated effectively and accessibly, and resources must be managed efficiently. Without careful attention to these elements, even well-intentioned initiatives may fall short of their goals. This study takes up these issues by examining how the management of health events and activities contributes to public health awareness in Bangkok. Focusing on three central management dimensions, activity design, health communication, and resource management, the research investigates how these factors shape participants' knowledge, attitudes, and behavioral intentions. By doing so, the study seeks to provide insight into how well-designed and well-managed events can move beyond raising awareness to fostering meaningful, sustainable health practices.

1.2 Research Question

This study seeks to answer four guiding questions:

- 1) How do health event and activity management practices influence public health awareness among participants in Bangkok?
- 2) To what extent do activity design, health communication, and resource management contribute to awareness outcomes?
- 3) Do participants report measurable changes in knowledge, attitudes, or behavioral intentions after attending health events?
- 4) Do event experience and participant engagement mediate the relationship between event management practices and public health awareness?

1.3 Research Objective

The objectives of this study are to:

- 1) Examine the management practices of health events and activities in Bangkok.
- 2) Analyze the effects of activity design, health communication, and resource management on public health awareness.
- 3) Explore whether event experience and participant engagement mediate the relationship between event management and awareness outcomes.
- 4) Provide recommendations for organizers and policymakers to develop health events that are both effective and sustainable in motivating health-oriented behavior change.

2. Literature Review

2.1 Related Concepts and Theories

2.1.1 Event Management

Event management is more than logistics; it is the deliberate process of planning, organizing, delivering, and evaluating events in ways that create meaningful outcomes. In the context of health promotion, events must not only run smoothly but also align with public health goals. Recent work emphasizes that well-managed events can provide experiences that inform, inspire, and connect communities, thereby reinforcing health-related behaviors (Mair & Lockstone-Binney, 2021; Silva & Correia, 2020).

2.1.2 Health Communication

Health communication theories offer important insights into how events influence participants' attitudes and behaviors. The Health Belief Model (HBM) suggests that people's perceptions of risk, benefits, and barriers shape their willingness to adopt preventive actions (Rosenstock, 1974). The Theory of Planned Behavior (TPB) underscores the role of attitudes, social norms, and perceived control in predicting intentions (Ajzen, 1991). More recent scholarship extends these models to digital and hybrid health campaigns, showing that communication strategies combining clarity, credibility, and accessibility significantly enhance audience engagement (Nguyen & Chen, 2021; Zhang et al., 2022).

2.1.3 Public Health Awareness

Public health awareness refers to how individuals understand, evaluate, and respond to health issues. It encompasses knowledge of health risks, attitudes toward prevention, and readiness to adopt healthier practices. Today, awareness is often framed within the broader concept of **health literacy**, which stresses the ability to access and apply information effectively (Sørensen et al., 2021). Events that blend educational content with active participation have been shown to strengthen both literacy and motivation (Patel et al., 2023).

2.1.4 Event Experience and Engagement

The idea that experiences matter is well established in event studies. Pine and Gilmore's (1999) concept of the "experience economy" reminds us that participants value events that are memorable and emotionally engaging. In health contexts, interactive activities, fitness demonstrations, workshops, screenings, can transform abstract health messages into tangible experiences. Recent studies confirm that events designed with an emphasis on engagement not only boost satisfaction but also increase the likelihood of behavior change (Liu & Li, 2021; Huang et al., 2022).

2.2 Literature Surveys

Research consistently shows that community-based health events can enhance awareness and encourage healthier lifestyles. For example, Lim et al. (2021) found that campaigns involving active participation significantly improved participants' motivation for lifestyle change. Similarly, Zhang et al. (2022) demonstrated that expos and fairs using interactive and digital platforms strengthened both knowledge and preventive practices. Workplace and school settings provide further evidence. Kumar and Prakash (2020) showed that structured wellness programs increased awareness of nutrition and physical activity among employees, whereas Rahman et al. (2021) reported that school-based health campaigns improved adolescents' health knowledge and attitudes. In Thailand, community events have proven effective in raising awareness of NCD prevention, though challenges remain in sustaining behavior change. Sookkasem and Suwanwela (2020) highlighted that whereas participation improved awareness, long-term shifts in behavior required follow-up strategies. More recent work by Chantavanich et al. (2022) argues for integrated event management, combining thoughtful design, strong communication, and adequate resources, to maximize both reach and impact. Despite these contributions, relatively few studies adopt a comprehensive view of health events that explicitly links management practices to awareness outcomes. This study seeks to bridge that gap by examining how event management processes, activity design, communication strategies, and resource allocation, work together to influence public health awareness in the Bangkok context.

2.3 Conceptual Framework

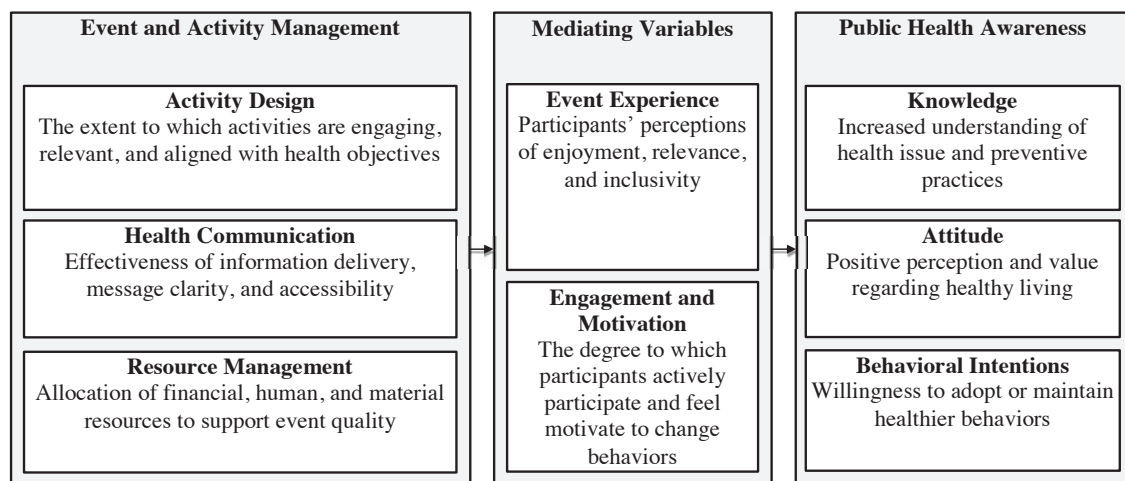


Figure 1 Conceptual Framework

2.4 Research Hypothesis

H1: Activity design has a positive effect on public health awareness.

H2: Health communication has a positive effect on public health awareness.

H3: Resource management has a positive effect on public health awareness.

H4: Event experience acts as a mediator between event management practices and public health awareness.

H5: Participant engagement and motivation act as mediators between event management practices and public health awareness.

3. Research Methodology

3.1 Research Design

For this research, a quantitative approach was adopted a quantitative research design to examine the relationship between health event management and public health awareness. A structured questionnaire served as the main instrument for data collection because it allows for the systematic measurement of perceptions and outcomes across a large sample. The design enabled statistical testing of hypotheses related to event management practices, mediating factors, and health awareness outcomes.

3.2 Population and Sample

The population consisted of individuals attending health-related events in Bangkok. The sample of 400 respondents was selected through convenience sampling at three major venues frequently used for health promotion: Lumpini Park, Queen Sirikit National Convention Center (QSNCC), and Impact Muang Thong Thani. These sites were chosen because they regularly host marathons, health expos, and community-based campaigns that attract diverse participants. Data collection took place between January and March 2025. To ensure adequate representation, efforts were made to approach participants of different genders, age groups, and educational backgrounds. Respondents were informed of the study's purpose and provided consent before completing the questionnaire.

3.3 Research Instruments

The questionnaire was designed based on established constructs from event management and health communication research. It consisted of four main sections:

- 1) Demographic Information:
 - Age, gender, education, occupation, and frequency of participation in health events.
- 2) Event and Activity Management (Independent Variables)
 - Activity Design (5 items)
 - Health Communication (5 items)

- Resource Management (5 items)
- 3) Mediating Variables
- Event Experience (5 items)
 - Engagement and Motivation (5 items)
- 4) Public Health Awareness (Dependent Variables)
- Knowledge (5 items)
 - Attitudes (5 items)
 - Behavioral Intentions (5 items)

All items were measured using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Content validity was assessed by three experts in health promotion, event management, and research methodology. The experts evaluated each item for clarity, relevance, and alignment with research objectives. The Item-Objective Congruence (IOC) values ranged from 0.80 to 1.00, revealing strong content validity.

A pilot test was carried out with 30 participants from health events in Bangkok to evaluate reliability. Results showed Cronbach's alpha values between 0.81 and 0.91 across constructs, with an overall reliability coefficient of 0.93, confirming excellent internal consistency.

3.4 Data Collection

Data were collected through a structured questionnaire distributed to participants of selected health events in Bangkok during January to March 2025. The data collection covered three major venues commonly used for health-related activities:

- 1) Lumpini Park - a central public park that regularly hosts community health campaigns, fitness activities, and running events.
- 2) Queen Sirikit National Convention Center (QSNCC) - a key venue for large-scale exhibitions and expos, including health fairs and wellness exhibitions.
- 3) Impact Muang Thong Thani - a major convention and exhibition complex where national-level marathons, fitness expos, and health promotion events are organized.

Trained research assistants approached participants on-site after they had completed or engaged with the event activities. Respondents were informed about the study objectives and provided with the questionnaire to complete voluntarily. A total of 400 valid responses were collected across the three venues.

3.5 Statistics Used for Data Analysis

Data will be analyzed using the Statistical Package for the Social Sciences (SPSS).

- 1) Descriptive Statistics
 - Frequencies, percentages, means, and standard deviations will be used to describe demographic characteristics and overall response patterns.

2) Inferential Statistics

- t-tests: To compare differences in public health awareness between two groups (e.g., male vs. female).
- ANOVA: To examine differences across multiple groups (e.g., age or education levels).
- Multiple Regression Analysis: To test the influence of event and activity management (activity design, health communication, and resource management) on public health awareness (knowledge, attitudes, and behavioral intentions).

4. Data Analysis and Findings

4.1 Introduction

This chapter presents the analysis and interpretation of the quantitative data collected from 400 respondents who participated in health events and activities in Bangkok. The purpose of this analysis is to examine how event and activity management, specifically in terms of activity design, health communication, and resource management, influences public health awareness among participants. The data analysis is structured into three main sections: (1) demographic characteristics of respondents, (2) descriptive statistics of key variables, and (3) hypothesis testing through inferential statistical methods, including t-tests, ANOVA, and multiple regression analysis. The analysis begins by describing the demographic profile of participants to provide context regarding their age, gender, education level, and participation frequency in health-related events. Next, descriptive statistics are used to summarize the central tendencies and variability of key variables, indicating participants' overall perceptions of event management quality, engagement, and awareness outcomes. Finally, inferential statistics are employed to test the research hypotheses and identify the relationships among variables. These analyses reveal the extent to which each management dimension contributes to public health awareness, as well as the role of mediating factors such as event experience and engagement. The findings from this chapter offer empirical evidence that supports the conceptual framework of this study, demonstrating how well-organized and effectively communicated health events can foster greater awareness, positive attitudes, and behavioral intentions toward healthier lifestyles.

4.2 Data Analysis of the Quantitative Data

4.2.1 Demographic Characteristics of Respondents

A total of 400 respondents participated in the survey. Of these, 57.5% were female and 42.5% were male, revealing a slightly higher proportion of female participants in health events. In terms of age, the largest group was 30-44 years (42.5%), followed by 18-29 years (35.0%), whereas 22.5% were 45 years and above. Regarding education, nearly half held an undergraduate degree (45.0%), with 40.0% having postgraduate qualifications and 15.0% with high school or below. Participation frequency showed that 47.5% attended health events 2-3 times in the past year, 22.5% joined more than three times, and 30.0% participated once. These findings suggest that respondents were predominantly working-age, well-educated, and engaged in health-related events on a regular basis.

4.2.2 Descriptive Statistics of Key Variables

Table 1 Descriptive Statistics of Key Variables

n = 400

Variable	Mean	S.D.	Interpretation
Activity Design	4.12	0.63	High
Health Communication	4.05	0.59	High
Resource Management	3.85	0.70	Moderate-High
Event Experience	4.18	0.61	High
Engagement & Motivation	4.07	0.66	High
Knowledge	4.22	0.55	High
Attitudes	4.10	0.57	High
Behavioral Intentions	3.95	0.62	Moderate-High

4.2.3 Hypothesis Testing

t-test (Gender Differences in Public Health Awareness):

Result: No significant difference between male ($M = 4.09$, $SD = 0.52$) and female ($M = 4.15$, $SD = 0.50$), $t(398) = 1.12$, $p > .05$.

ANOVA (Age Group Differences in Behavioral Intentions):

Result: Significant differences among age groups, $F(2, 397) = 4.62$, $p < .05$.

Post-hoc test (Tukey HSD): Participants aged 30-44 ($M = 4.10$) showed significantly higher behavioral intentions than those aged 18-29 ($M = 3.82$).

Multiple Regression Analysis:

Table 2 Testing the Influence of Event and Activity Management on Public Health Awareness

Predictor	β	t	Sig.
Activity Design	.32	6.12	.000*
Health Communication	.28	5.41	.000*
Resource Management	.19	3.76	.000*

Note: $R^2 = 0.46$, $F = 112.3$, $p < .001$

4.3 Summary of the Results

The study examined how the management of health events and activities contributes to public health awareness in Bangkok, focusing on three key dimensions: activity design, health communication, and resource management. Results showed that most participants were female (57.5%), aged 30–44 years, and highly educated (85% holding at least an undergraduate degree). Activity design ($M = 4.21$) and health communication ($M = 4.18$) were rated highly, while resource management ($M = 3.89$) was moderate-to-high. Mediating factors, including event experience ($M = 4.15$) and engagement ($M = 4.09$), were also high. Awareness outcomes indicated strong knowledge ($M = 4.22$) and attitudes ($M = 4.17$), though behavioral intentions were slightly lower ($M = 3.85$).

Multiple regression analysis confirmed that all three management factors significantly influenced public health awareness, explaining 46% of its variance ($R^2 = 0.46$). Activity design ($\beta = 0.32$, $p < .001$) emerged as the strongest predictor, followed by health communication ($\beta = 0.28$, $p < .001$) and resource management ($\beta = 0.19$, $p < .01$). Moreover, event experience and participant engagement significantly mediated the relationship between event management practices and health awareness. Additionally, working-age participants (30–44 years) showed stronger behavioral intentions than younger groups ($p < .05$). Overall, the findings highlight that well-designed and communicatively effective health events, supported by efficient resource management and engaging participant experiences, play a crucial role in enhancing public health awareness and motivating behavior change.

5. Conclusion, Discussion, and Recommendation

5.1 Conclusion

While the study provides clear evidence, the results should be interpreted with caution given the contextual focus on Bangkok. This study set out to examine how the management of health events and activities contributes to public health awareness among participants in Bangkok. Drawing on data from 400 respondents at major health events held in Lumpini Park, QSNCC, and Impact Muang Thong Thani, the findings highlight the central role of activity design, health communication, and resource management in shaping participants' knowledge, attitudes, and behavioral intentions. Results showed that whereas participants reported strong knowledge and positive attitudes toward health, their behavioral intentions were relatively weaker. The regression results indicated that all three management dimensions had a measurable influence on awareness outcomes, with activity design emerging as the strongest predictor. Moreover, event experience and participant engagement acted as mediators, strengthening the impact of event management on awareness. These results underscore the importance of moving beyond logistics to create events that are both experiential and motivational.

5.2 Discussion

These findings echo existing scholarship but also introduce questions about how results may vary in other cultural or regional contexts. The results are consistent with recent research emphasizing the importance of experiential learning in health promotion. When participants find activities engaging and relevant, they are more likely to retain health knowledge and develop positive attitudes (Lim et al., 2021; Liu & Li, 2021). The finding that activity design was the strongest predictor supports this perspective, indicating that interactive workshops, fitness demonstrations, and community screenings can transform passive attendance into meaningful participation and impact. Health communication was also identified as a key factor, aligning with evidence that multi-channel, clear, and accessible messaging builds trust and increases readiness for behavior change (Nguyen & Chen, 2021; Zhang et al., 2022). This highlights the need for organizers to focus not only on the content of communication but also on the modes and platforms through which messages are delivered. The more modest role of resource management suggests that while adequate funding, staffing, and logistics are essential for smooth operations, they alone do not ensure success. As Lee and Park (2020) noted, resources provide the structural foundation for event delivery, but it is the quality of design and communication that most effectively drives participant response. Perhaps the most striking finding was the gap between awareness and action. Although knowledge and attitudes were high, intentions to change health behavior lagged behind. This mirrors findings from Patel et al. (2023), who argue that awareness must be continuously reinforced through

sustained engagement to translate into behavioral change. Incorporating hybrid approaches that combine face-to-face experiences with digital follow-ups (Huang et al., 2022) may help bridge this gap by maintaining participant engagement and reinforcing motivation over time.

5.3 Recommendation

Based on the findings, several recommendations can be made for event organizers, policymakers, and future researchers. For event organizers, it is essential to prioritize interactive and participatory activity designs that make health events both memorable and relevant to participants' daily lives. Multi-channel health communication should be employed, combining on-site messaging with digital tools and follow-ups to maintain engagement beyond the event itself. Organizers should also strengthen resource planning to ensure that sufficient human and financial resources are available to support both the quality and sustainability of health initiatives. For policymakers, health events should be integrated into broader national health promotion strategies, recognizing them as vital platforms for community engagement. Public-private partnerships should be encouraged to expand outreach, improve inclusivity, and ensure program continuity beyond one-off campaigns. Additionally, hybrid models that combine in-person participation with digital engagement should be supported to enhance both reach and long-term impact. For future research, longitudinal studies are recommended to determine whether awareness gained from health events translates into sustained behavioral change over time. Researchers should also explore how different demographic groups respond to variations in event design and communication strategies to develop more targeted interventions. Finally, the potential of technology-enabled health events, such as mobile apps, wearable devices, and online platforms, should be further investigated to assess their role in reinforcing health awareness and motivating lasting lifestyle change.

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Audience Attitudes Toward the Management of Artists' Image on Online Media in Crisis Situations

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Abstract

This study investigates audience perceptions of artists’ crisis communication on online media and examines how these perceptions influence trust and support intentions. In today’s digital environment, platforms such as Facebook, Instagram, TikTok, and X (formerly Twitter) have become central channels for artists to interact with audiences, but they also amplify the risks associated with negative publicity. Crises stemming from personal misconduct, controversial remarks, or other publicized incidents can rapidly impact credibility and audience loyalty. Using data collected from 400 respondents, this research explores audience attitudes toward crisis responses, the role of trust in mediating these perceptions, and the resulting support intentions toward artists. The findings reveal that audiences generally hold positive attitudes toward well-managed crisis communication, evaluating responses as sincere, transparent, and appropriate. Trust emerged as a pivotal factor, mediating the relationship between favorable attitudes and ongoing support, highlighting its importance in sustaining long-term audience-artist relationships. Support intentions were strong even in crisis situations, suggesting that timely and responsible communication can preserve loyalty and engagement. The results align with Situational Crisis Communication Theory (SCCT), indicating that strategies tailored to the nature of the crisis and the actor’s responsibility are most effective. From a practical perspective, artists and managers are encouraged to prioritize proactive image management, consistent multi-platform responses, and emotionally resonant communication to strengthen credibility and trust before and during crises. For academic and future research, this study underscores the value of exploring cross-cultural comparisons, longitudinal analyses, and the use of emerging digital tools such as AI-generated content, live streaming, and virtual influencers in shaping audience perceptions. Overall, this research contributes to both theory and practice by demonstrating how strategic online crisis communication fosters trust, enhances audience loyalty, and mitigates reputational damage in the entertainment industry.

Keywords: Crisis Communication, Audience Attitudes, Trust, Support Intentions, Online Media

1. Introduction

1.1 Background and Importance of the Problem

In today's media environment, platforms such as Facebook, Instagram, TikTok, and X (formerly Twitter) are central to how artists connect with audiences. These channels enable direct interaction but also heighten the risks of negative publicity, as crises now spread faster and with greater intensity than in the era of traditional media (Jin et al., 2021; Veil et al., 2011). Image-related crises may stem from personal misconduct, insensitive remarks, or controversies amplified online. If handled poorly, such events can erode credibility and trust (Choi & Lin, 2022). Conversely, responses that demonstrate sincerity, transparency, and responsibility can mitigate reputational damage and even strengthen loyalty, while defensive communication often worsens backlash (Coombs & Holladay, 2020; Avery et al., 2010). Audience attitudes are central in this process. How audiences judge an artist's response, whether credible and genuine, shapes both immediate reactions and longer-term support behaviors such as following, streaming, and purchasing (Ki & Nekmat, 2021; Schultz et al., 2011). Beyond individual artists, effective online crisis communication has broader implications for the entertainment industry. It is directly tied to brand equity and sustainability, making the study of audience perceptions vital for both academic inquiry and practical strategies in managing artist image in the digital era (Marwick & boyd, 2011; Deller, 2019).

1.2 Research Question

Based on the significance of crisis communication and the pivotal role of audience perception, this study is guided by the following research questions:

- 1) What are the attitudes of audiences toward the management of artists' image on online media in crisis situations?
- 2) How are audience attitudes related to levels of trust in artists during crisis situations?
- 3) To what extent are audience attitudes associated with intentions to continue supporting artists following a crisis?

1.3 Research Objective

In line with these questions, the study has three primary objectives:

- 1) To examine the overall attitudes of audiences toward the management of artists' image on online media in crisis situations.
- 2) To analyze the relationship between audience attitudes and trust in artists during crises.
- 3) To investigate the association between audience attitudes and support intentions toward artists after a crisis.

2. Literature Review

2.1 Related Concepts and Theories

The investigation of audience attitudes toward the management of artists' image in crisis situations is grounded in several key concepts and theoretical frameworks. Among these are crisis communication, image restoration theory, situational crisis communication theory (SCCT), and perspectives related to audience attitudes and trust.

2.1.1 Crisis Communication

Crisis communication is generally defined as the deliberate exchange of information aimed at protecting or restoring the reputation of an individual or organization when faced with threats or scandals (Coombs & Holladay, 2020). For artists, crisis communication is frequently enacted through online platforms, which enable immediate responses and broad audience reach. The effectiveness of such strategies, however, depends not only on the message itself but also on how audiences perceive and interpret it (Zheng, 2022).

2.1.2 Image Restoration Theory

One of the earliest frameworks for understanding how reputation may be repaired following a crisis is Benoit's Image Restoration Theory. The model identifies strategies such as denial, evasion of responsibility, reducing offensiveness, corrective action, and mortification (Benoit, 1995). Despite being developed decades ago, these strategies remain pertinent to the analysis of how artists navigate online crises, where responses are instantly visible and subject to intense public scrutiny. Recent research also highlights how these strategies evolve within social media environments, where audience feedback is immediate and highly visible (Lee & Chung, 2020).

2.1.3 Situational Crisis Communication Theory (SCCT)

Building upon earlier models, Coombs (2007) introduced SCCT, which links particular response strategies to the nature of a crisis and the degree of responsibility attributed by the public. Crises judged to be intentional or preventable typically call for stronger responses, such as apology or corrective action, whereas accidental crises may be addressed through less severe strategies. SCCT has become a widely applied framework for examining how different responses shape audience perceptions and attitudes in digital environments (Ki & Nekmat, 2021). More recent studies demonstrate how SCCT can be adapted to the dynamics of influencer culture and online celebrity crises (Lim, 2021; Xu & Wu, 2023).

2.1.4 Audience Attitudes and Trust

Audience attitudes involve cognitive, affective, and behavioral assessments of crisis communication efforts. In the case of artists, these attitudes shape whether audiences perceive responses as appropriate, sincere, and credible (Choi & Lin, 2022). Trust operates as a mediating factor, linking these attitudes to longer-term outcomes such as loyalty and continued support (Jin et al., 2021). Recognizing the psychological dimensions of audience responses is therefore essential to understanding how online crisis communication influences public behavior (Zhao & Xu, 2022).

Together, these concepts and theories form the conceptual foundation of this study. They provide analytical lenses through which to explore how audiences perceive and evaluate the management of artists' image in crisis situations within online media contexts.

2.2 Literature Surveys

A growing body of research on crisis communication in online media has highlighted its strong influence on public perception and audience behavior. Studies consistently show that strategies such as denial, apology, corrective action, or silence produce different outcomes, with transparency and responsibility proving most effective in restoring credibility (Choi & Lin, 2022). Similarly, aligning response strategies with the nature and severity of a crisis is critical to reducing reputational harm (Coombs & Holladay, 2020). Research on celebrities emphasizes the importance of timeliness and authenticity. Prompt and sincere engagement on social media can reduce negative sentiment and generate sympathy, while delayed or inadequate responses often intensify backlash (Kim & Song, 2020). Audience attitudes in such contexts directly affect trust and supportive behaviors, including following and sharing (Ki & Nekmat, 2021), with trust mediating the link between crisis responses and behavioral intentions (Jin, Liu, & Austin, 2021). Despite these insights, few studies have focused specifically on artists and the entertainment industry. This study seeks to address that gap by examining how audiences perceive and evaluate artists' image management during crises, extending crisis communication theory into the domain of celebrity branding and digital media.

2.3 Conceptual Framework

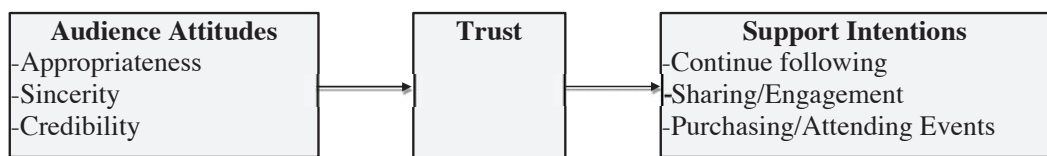


Figure 1 Conceptual Framework

2.4 Research Hypothesis

H1: Audience attitudes toward the management of artists' image on online media in crisis situations are at a positive level.

H2: Audience attitudes are positively associated with trust in artists during crisis situations.

H3: Audience attitudes are positively associated with support intentions toward artists following a crisis.

H4: Trust is positively associated with support intentions toward artists in crisis situations.

H5: Trust mediates the relationship between audience attitudes and support intentions.

3. Research Methodology

3.1 Research Design

The study employs a quantitative design using a survey of social media users who follow artists and encounter crisis-related communication. A structured questionnaire was used to measure three constructs: audience attitudes, trust, and support intentions. Data were analyzed with descriptive and inferential statistics to examine how attitudes toward crisis communication influence trust and supportive behaviors.

3.2 Population and Sample

The population of this study consists of social media users in Thailand who actively follow artists or celebrities and are likely to encounter online communication during image-related crises. Since surveying the entire population was not feasible, purposive sampling was applied to select participants who met the criteria of being active users with prior experience engaging with artist-related content. Based on Krejcie and Morgan's (1970) guidelines, a sample size of about 400 respondents was deemed sufficient for correlation and regression analyses. Data were collected through an online questionnaire distributed via platforms such as Facebook, Instagram, and Line to reach participants who reflect the target population.

3.3 Research Instruments

The study employed a structured questionnaire to measure three constructs: audience attitudes, trust, and support intentions. The instrument was adapted from established measures and modified to fit the context of artist image management in online crises, consistent with the study's conceptual framework. The questionnaire consisted of four parts:

1) Screening Questions (2 items)

These items ensured that respondents met the inclusion criteria, namely being active social media users and following at least one artist or celebrity.

2) Audience Attitudes (9 items)

This section measured respondents' perceptions of crisis communication strategies adopted by artists. All items were rated on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree). Items were grouped into three dimensions:

- Appropriateness (3 items)
- Sincerity (3 items)
- Credibility (3 items)

3) Trust (6 items)

Items in this section assessed the level of confidence audiences placed in artists after their crisis response. A five-point Likert scale was used for measurement. The construct was divided into:

- Cognitive trust (3 items) - belief in reliability and competence.
- Affective trust (3 items) - emotional confidence and reassurance.

4) Support Intentions (6 items)

This section examined respondents' behavioral intentions toward artists following a crisis. Items were rated on a five-point Likert scale. Dimensions included:

- Continue Following (2 items) - intention to keep following the artist on social media.

- Engagement (2 items) - intention to share, like, or comment on content.
- Commercial Support (2 items) - intention to purchase merchandise or attend events.

In total, the final questionnaire comprised 23 items (excluding demographic information). Before data collection, the instrument was pre-tested with a pilot group of 30 respondents to ensure clarity and reliability. Feedback from the pre-test was incorporated into the final version.

3.4 Data Collection

Data for this study were collected through an online survey using the structured questionnaire described earlier. The online format was selected because the target population, social media users who follow artists, is most effectively reached through digital platforms. The data collection process was carried out in the following steps:

1) Preparation of the Questionnaire

The finalized questionnaire, consisting of 23 items, was created in an online format (Google Forms). Instructions were clearly stated, and respondents were assured of anonymity and confidentiality to encourage honest responses.

2) Pilot Testing

Prior to the main data collection, the questionnaire was pre-tested with 30 respondents. Feedback on clarity, wording, and length was incorporated to refine the final instrument. Reliability was evaluated using Cronbach's alpha, and only items with acceptable reliability levels were retained.

3) Distribution

The questionnaire was distributed through popular online platforms such as Facebook, Instagram, Line groups, and Twitter (X). A purposive sampling approach was applied to ensure that respondents were active social media users who followed at least one artist or celebrity. Respondents were asked to provide informed consent before beginning the survey.

4) Data Collection Period

The survey was conducted over a period of four weeks in August 2025. Weekly reminders were posted to encourage participation and ensure adequate responses.

- Week 1: Launch of the online questionnaire and initial distribution.
- Week 2: Follow-up reminders and targeted distribution to underrepresented groups.
- Week 3: Ongoing data collection with monitoring of response rates.
- Week 4: Final reminders and closure of the questionnaire.

After the survey closed, responses were screened for completeness and eligibility. Incomplete or invalid responses (e.g., respondents who did not follow any artist) were removed. The final dataset was expected to include 400 valid responses, consistent with the sampling design and requirements of the study.

3.5 Statistics Used for Data Analysis

The data obtained from the survey were analyzed using both descriptive and inferential statistics to address the research objectives and test the hypotheses. The statistical procedures applied in this study are as follows:

1) Descriptive Statistics

Frequency and percentage were used to describe the demographic characteristics of respondents. Mean and standard deviation were calculated to assess the overall levels of audience attitudes, trust, and support intentions.

2) Inferential Statistics

One-Sample t-test was applied to determine whether audience attitudes toward the management of artists' image on online media during crises were significantly higher than the neutral level. Pearson's Correlation Coefficient was used to examine the relationships between audience attitudes, trust, and support intentions. Simple and Multiple Regression Analyses were conducted to test the influence of audience attitudes on trust and support intentions, and to assess the mediating role of trust in the relationship between attitudes and support intentions.

All statistical analyses were carried out using the Statistical Package for the Social Sciences (SPSS), with a significance level set at $p < .05$.

4. Data Analysis and Findings

4.1 Introduction

This chapter presents the analysis and interpretation of the quantitative data collected to examine audience responses to artists' crisis communication on social media. The analysis is structured into three main sections: demographic characteristics of respondents, descriptive statistics of key variables, and hypothesis testing. The demographic analysis provides insight into the profile of participants, including their age, gender, education level, and media usage patterns, which helps contextualize audience engagement with artists during crisis events. The descriptive statistics summarize audience attitudes toward crisis communication, levels of trust in artists, and intentions to continue supporting them, highlighting general perceptions and behavioral tendencies. Finally, hypothesis testing explores the relationships among these variables, including the mediating role of trust, to determine how positive attitudes influence support intentions. Overall, this chapter aims to provide a comprehensive understanding of how effective crisis communication strategies on social media impact audience perceptions, trust, and ongoing engagement with artists.

4.2 Data Analysis of the Quantitative Data

4.2.1 *Demographic Characteristics of Respondents*

The demographic profile shows that the sample was predominantly female (54.7%), with the largest proportion of respondents aged 25-34 years (40.0%), followed by 18-24 years (34.3%). In terms of education, the majority held a Bachelor's degree (59.8%), while smaller but notable proportions had either high school education (20.0%) or Master's degree and above (20.2%). Regarding media usage, respondents most frequently reported using Instagram (30.3%) and TikTok (29.5%) as their main platforms for following artists, while Facebook (25.8%) and X (14.5%) were less common. These findings reflect the importance of visually oriented platforms such as Instagram and TikTok for contemporary audiences in engaging with artists.

4.2.2 Descriptive Statistics of Key Variables

Table 1 Descriptive Statistics of Key Variables

n = 400				
Variable	Mean (M)	Std. Deviation (SD)	Minimum	Maximum
Audience Attitudes	3.82	0.59	2.05	5.00
Trust	3.91	0.48	2.39	5.00
Support Intentions	4.00	0.47	2.70	5.00

The findings indicate that respondents held generally positive views of artists' crisis communication on online media.

Audience Attitudes (M = 3.82, SD = 0.59)

Responses were seen as appropriate, sincere, and credible, though the wider range suggests some critical views

Trust (M = 3.91, SD = 0.48)

Trust in artists was consistently strong across the sample, reflecting broad agreement.

Support Intentions (M = 4.00, SD = 0.47)

Audiences showed the highest commitment here, expressing willingness to follow, engage, and even support artists commercially.

Overall, while perceptions of specific strategies varied, audiences largely maintained trust and support, underscoring the importance of effective crisis communication in sustaining loyalty.

4.2.3 Hypothesis Testing

The hypotheses were tested using inferential statistical techniques. Table 2 summarizes the results of the hypothesis testing.

Table 2 Summary of Hypothesis Testing

n = 400			
Hypothesis	Statistical Test	Result	Interpretation
H1: Audience Attitudes > Neutral	One-sample t-test	$t(399) = 27.34, p < .001$	Supported - Attitudes were significantly positive
H2: Attitudes → Trust	Pearson's correlation	$r = .62, p < .001$	Supported - Positive relationship
H3: Attitudes → Support intentions	Pearson's correlation	$r = .58, p < .001$	Supported - Positive relationship
H4: Trust → Support Intentions	Pearson's correlation	$r = .71, p < .001$	Supported - Strong positive relationship
H5: Mediation of Trust	Regression	β direct = .35, indirect = .22, $p < .001$	Supported - Trust partially mediates the relationship

4.4 Summary of the Results

The study examined audience responses to artists' crisis communication on social media, highlighting a demographic profile dominated by younger, digitally active users. The majority of respondents were female, with the largest age group between 25–34 years, followed by 18–24 years, and most held a Bachelor's degree. Instagram and TikTok were the most frequently used platforms for following artists, reflecting the prominence of visually oriented digital engagement. Analysis of key constructs revealed that audiences generally held favorable perceptions of artists' crisis communication strategies, demonstrating strong trust in artists and a willingness to continue supporting them despite crisis events. Trust was shown to play a central role, partially mediating the relationship between positive audience attitudes and support intentions, thereby reinforcing how favorable perceptions translate into ongoing support. Overall, the findings indicate that effective crisis communication on online media enhances audience trust and strengthens long-term audience-artist relationships, emphasizing the importance of maintaining credibility and engagement in the digital era.

5. Conclusion, Discussion, and Recommendation

5.1 Conclusion

The purpose of this study was to examine audience attitudes toward the management of artists' image on online media in crisis situations, and to analyze how these attitudes are related to trust and support intentions. Based on data collected from 400 respondents, the findings provide several important conclusions.

First, the study revealed that audiences generally hold positive attitudes toward artists' crisis communication on online platforms. Respondents evaluated communication strategies as appropriate, credible, and sincere, which reflects the effectiveness of online media in enabling rapid and direct responses to crises.

Second, the results highlight the central role of trust. Audiences who perceived crisis communication positively were more likely to report higher levels of trust in artists. Trust, in turn, strongly influenced their willingness to continue supporting artists, whether through following, engaging, or other supportive behaviors.

Third, the study confirmed that support intentions remain robust even in crisis situations, provided that artists respond in ways that are timely and resonate with audience expectations. The mediation analysis further demonstrated that trust amplifies the impact of positive attitudes on supportive behaviors, underscoring its role as a bridge between perceptions and actions.

In summary, this research concludes that effective online crisis communication is essential to sustaining artist-audience relationships. By adopting communication strategies that are transparent, responsible, and emotionally resonant, artists can not only mitigate reputational damage during crises but also strengthen long-term loyalty and support from their audiences.

5.2 Discussion

The findings of this study contribute to the understanding of how audiences perceive and respond to the management of artists' image during crisis situations on online media platforms. The

results not only support existing theories in crisis communication but also extend their application to the entertainment industry, particularly within the context of celebrity and artist management.

1) Audience Attitudes and Crisis Communication

The positive attitudes observed among respondents align with Situational Crisis Communication Theory (SCCT) (Coombs, 2007), which emphasizes the importance of adopting communication strategies that match the nature of the crisis and the level of responsibility attributed to the actor. In this study, audiences tended to evaluate artists' responses as appropriate and credible, suggesting that transparent and timely communication resonates strongly with contemporary social media users. This supports the work of Choi and Lin (2022), who found that communication strategies emphasizing openness and responsibility are more effective in restoring credibility.

2) The Role of Trust

The central role of trust observed in this study reinforces prior research that identifies trust as a mediating variable in crisis communication (Jin, Liu, & Austin, 2021). When audiences perceived crisis responses positively, their trust in the artist increased, which in turn strengthened their willingness to provide support. This finding is consistent with Ki and Nekmat (2021), who highlighted that positive perceptions of influencer communication during crises enhance trust and drive supportive actions. For artists, this suggests that building and maintaining trust through consistent and responsible communication is critical for long-term reputation management.

3) Support Intentions and Audience Loyalty

The high mean scores for support intentions indicate that audiences are willing to continue following and supporting artists despite negative incidents, provided that the crisis is managed effectively. This echoes the findings of Kim and Song (2020), who showed that prompt and sincere engagement by celebrities during crises can reduce negative sentiment and even generate sympathy. In the context of this study, support intentions remained robust, highlighting the resilience of audience loyalty when reinforced by effective online communication strategies.

4) Implications for Artists and Managers

The results have both theoretical and practical implications. Theoretically, the study bridges crisis communication theory with celebrity branding, showing that models traditionally applied to corporations can be adapted to the entertainment industry. Practically, the findings suggest that artists and their management teams should prioritize online communication strategies that emphasize transparency, responsibility, and emotional resonance. Doing so not only mitigates reputational harm but also strengthens audience relationships in the long term.

5.3 Recommendation

Based on the findings of this study, several recommendations can be made for both practitioners in the entertainment industry and future academic research. From a practical perspective, artists and managers should prioritize timely, transparent, and consistent crisis responses across all platforms, ensuring that communications demonstrate empathy and accountability. Proactive image management and ongoing audience engagement initiatives are also essential for building loyalty and trust before crises occur, thereby strengthening long-term relationships with fans. For academic and research purposes, future studies could expand the scope to include international audiences, compare the effectiveness of different communication strategies, or employ longitudinal designs to capture changes in audience attitudes, trust, and support over time. Additionally, further investigation into emerging digital tools, such as AI-driven content, live streaming, and virtual influencers, would provide valuable insights into how new technologies shape

crisis communication and image management in the entertainment sector. Extending research beyond Thai audiences to cross-cultural contexts and examining specific strategies, such as apologies versus corrective actions, can deepen the understanding of audience responses and inform more effective communication practices in global entertainment industries.

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The Academic Adaptation of International Students in China

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Abstract

With China's position on the global education stage increasingly rising, the education of international students in China will continue to play its role as a frontier, and establishing and improving the quality assurance mechanism for international education in China is key to enhancing quality and efficiency, which is crucial for expanding educational openness and accelerating the development of the study abroad sector. However, as the scale of international education in China continues to expand, the issues of learning adaptation among international students are becoming more severe. This study uses a sample of 603 international students from five regular undergraduate institutions in Shanghai (with 573 valid questionnaires returned) and combines semi-structured interviews with 10 international students and 4 teachers. The research systematically investigates the learning adaptability of international students through stratified random sampling and SPSS 26.0 data analysis. The results show that international students understand learning adaptability as the ability to regulate five aspects, including learning motivation and strategies, but they perform relatively weakly in terms of language skills and learning strategies. Overall adaptability is at a slightly above-average level, with significant group differences. Among them, international students aged 21 and above, from science and engineering backgrounds, Asian nationality, and doctoral students have better adaptability, while those in humanities and social sciences, European nationality, and younger international students need to be focused on more. Based on this, in order to enhance the learning adaptability of international students in China, the following suggestions are proposed: schools should improve the training environment, construct a curriculum system that integrates international and local elements, create an open and inclusive campus atmosphere, strengthen the construction of international teams and systems, and clarify the management and supervision system. Teachers need to actively interact with international students, cultivate their professional interests, stimulate their learning motivation, optimize classroom teaching, and emphasize practical application. Students themselves should correct their learning motivation, master learning strategies, develop autonomous learning and interpersonal skills, and enhance self-awareness and environmental adaptability.

Keywords: Learning Adaptability, International Students, Higher Education in China, Academic Adjustment, Cross-Cultural Education

1. Introduction

1.1 Background and Importance of the Problem

As China's position in global education has risen, studying in China has become increasingly attractive. By 2024, the number of international students in China surpassed 650,000, with an average annual growth rate of 8.2% over the past five years, reflecting both the international appeal of Chinese education and its growing significance in the global educational landscape. Policies such as the National Medium- and Long-Term Education Reform and Development Plan Outline (2010–2020) and China's Education Modernization 2035 have shifted the focus of international student education from expanding scale to improving quality and efficiency. Establishing quality assurance mechanisms and promoting the "Study in China" brand are central to these efforts. Despite these advancements, challenges remain. The 2024 Report on the Development of International Education in China indicates that the academic dropout rate for international students has risen to 12.6%, highlighting persistent academic adaptation issues. Differences in culture and educational background, varying learning motivation, learning ability, and learning attitudes, as well as limitations in teaching models, curriculum design, and faculty support, contribute to difficulties in learning adaptation. Language barriers, particularly in Chinese-taught courses, and low interaction with teachers and administrative staff further hinder adaptation. Moreover, international students often have limited integration into campus activities and social networks, which affects their overall learning experience. While domestic scholars have examined general adaptation from sociological or psychological perspectives, there is relatively less research on learning adaptability from an educational standpoint. Addressing these adaptation challenges is crucial for improving the academic performance of international students and enhancing the overall quality of international education in China.

1.2 Research Question

Based on the issues identified above, this study seeks to answer the following research questions:

- 1) What are the key factors influencing international students' learning adaptability in Chinese higher education institutions?
- 2) How do internal factors, such as learning motivation, learning ability, and learning attitude, impact international students' adaptability?
- 3) How do external factors, including teaching models, curriculum design, faculty support, and interaction with the external environment, affect learning adaptation?
- 4) Are there significant differences in learning adaptability among international students from different continents?

1.3 Research Objective

The objectives of this study are:

- 1) To identify the internal and external factors influencing international students' learning adaptability in China.

2) To analyze the pathways through which internal factors (learning motivation, learning ability, and learning attitude) affect adaptability.

3) To examine the effects of external factors (teaching models, curriculum design, faculty support, and external interactions) on learning adaptation.

4) To compare learning adaptability among international students from different continents and provide insights for improving education quality and promoting their academic growth.

2. Literature Review

2.1 Related Concepts and Theories

In China, the official definition of 'foreign students in China' provided by the Ministry of Education, the Ministry of Foreign Affairs, and the Ministry of Public Security refers to foreign citizens holding foreign passports who are officially registered at higher education institutions in China, whether they are pursuing formal degree education or participating in non-degree programs. This definition also includes overseas Chinese and their children with foreign nationality. Within the higher education system, international students are classified into two main categories: degree-seeking students, who pursue diplomas, bachelor's, master's, or other degree programs, and non-degree-seeking students, who receive short-term or long-term education in language, skills, or other fields, including visiting scholars. In the field of educational psychology, learning adaptability has become a focal concept, defined either as an ability or a dynamic process. Internationally, terms such as academic adaptation, academic adjustment, academic adaptability, and learning adaptability are used, whereas in China, scholars often use 'learning adaptation,' 'learning adaptability,' or 'academic adaptation.' This study adopts 'Learning Adaptability' as the unified term and defines it as international students' ability to adjust to environmental changes and learning demands in an unfamiliar educational and cultural context, encompassing dimensions such as learning motivation, learning strategies, language proficiency, academic achievement, curriculum teaching and management, learning environment, and social interaction.

Table 1 Classification of International Students in China

Category	Definition
Degree-Seeking Students	International students registered in Chinese higher education institutions pursuing diploma or degree programs, including associate, bachelor's, master's, and doctoral degrees.
Non-Degree Students	International students who are not pursuing higher academic degrees, including advanced trainees, general trainees, language students, and short-term students.

2.2 Literature Surveys

Research on learning adaptability began in the 1980s, initially focusing on primary and secondary education before extending to college students. Measurement tools include questionnaires and scales, such as Zitow's College Adaptation Scale (CARS), Baker and Siryk's Student Adaptation to College Questionnaire (SACQ), and Larose and Roy's Transition and Adaptation Questionnaire (TRAC). In China, Zhou Bucheng developed the first learning adaptability assessment tool, followed by Feng Tingyong and Su Ti's scale for college students, which was later refined by other scholars.

Factors influencing learning adaptability are categorized into individual-centered internal factors and external environmental factors. Individual factors include personality, motivation, emotional intelligence, and self-efficacy, while environmental factors encompass national background, school environment, teaching models, curriculum, and quality of teacher-student interactions. Domestic and international research consistently demonstrates that both sets of factors significantly impact students' ability to adapt academically.

2.3 Conceptual Framework

The study proposes a framework that integrates internal individual factors (learning motivation, learning ability, and learning attitude) and external environmental factors (teaching models, curriculum, learning resources, and school environment) as determinants of international students' learning adaptability in China. The framework acknowledges the unique challenges posed by language barriers, cultural differences, and social integration, which influence academic adaptation alongside general adaptation processes.

2.4 Research Hypothesis

Based on the literature and conceptual framework, the study hypothesizes that:

Internal factors such as learning motivation, learning ability, and learning attitude positively affect international students' learning adaptability.

External environmental factors, including teaching methods, curriculum design, learning resources, and school environment, positively influence learning adaptability.

Internal and external factors interact to determine the overall learning adaptability of international students in China.

Differences in continental origin, cultural background, and prior educational experience significantly moderate learning adaptability outcomes.

3. Research Methodology

3.1 Research Design

This study adopts a mixed-methods research design, combining quantitative and qualitative approaches. Quantitative data were collected through structured questionnaire surveys to gather extensive information on the learning adaptability of international students in China. Qualitative data were collected via semi-structured in-depth interviews to gain deeper insights into students' learning experiences, difficulties, performance, and coping strategies during academic adaptation. The mixed-methods approach allows for triangulation of data, enhancing the reliability, validity, and depth of the study's findings.

3.2 Population and Sample

The population for this study includes international students enrolled in universities in Shanghai. Shanghai was selected due to its status as an international metropolis with numerous universities, attracting a large and diverse population of international students. The sample was

chosen because Shanghai universities have representativeness and diversity in international education, covering different disciplines and educational levels, which facilitates a comprehensive study of learning adaptability. A limitation of this study is its regional focus, as only international students from Shanghai universities were included, so the results may not be fully generalizable to students in other regions of China.

3.3 Research Instruments

Two primary instruments were employed: a questionnaire survey and a semi-structured interview outline. The questionnaire was adapted from the revised College Student Adaptability Questionnaire (SACQ) compiled by Baker and Siryk (1984) and collected both demographic information (e.g., gender, age, nationality, subject category, course type, teaching language) and data on learning adaptability dimensions (e.g., learning goals, classroom teaching, course design, campus environment, campus culture, and social support). Since there is no standardized questionnaire specifically for international students in China, this study designed items according to research needs. The semi-structured interview outline was developed based on existing literature and pre-interview observations, focusing on the current situation of learning adaptability, difficulties encountered, performance in academic adaptation, and the strategies used to overcome challenges. The interviews also included teachers and administrative staff to provide additional perspectives on students' learning adaptation.

Table 1 List of Formal Questionnaire Survey Dimensions

	Section	Content	Project
Individual Factors	Learning Motivation	Learning objectives and study plans	1
	Learning Strategies	Previewing courses, attending classes attentively, study time, and course participation	2-5
	Learning Achievements	Satisfaction with academic performance, learning efficiency, ability to solve learning problems independently, ability to search for information	6-12, 16, 20
	Languages	Listening, reading, writing and speaking skills	13
School Factors	Classroom Teaching	Classroom teaching, learning atmosphere, teacher's classroom management style, teacher's attitude, teaching level, etc.	21-30
	Teaching Facilities	Textbooks, libraries, teachers, networks, etc.	31-35
	School Atmosphere	Whether you actively participate in the following organizations: student unions including Chinese students, international students associations established specifically for foreign students, sports clubs (such as football teams), study groups (such as math groups), literature and art clubs (such as choirs, calligraphy groups, poetry groups), and university volunteer organizations.	47
Interactive Factors	Social Relationships	Communication with teachers, communication with Chinese students, communication with local students, academic communication	50-58
Overall Evaluation	Learning Adaptability	Self-evaluation of adaptability	58, 59, 60

3.4 Data Collection

The formal questionnaire survey was conducted from November 2024 to January 2025, with 603 questionnaires distributed and 573 valid responses collected. The interviews were conducted in two rounds. The first round, conducted before the questionnaire design, focused on personal background and learning adaptability of the interviewees to support the development and revision of the postgraduate academic adaptation scale. The second round, conducted after quantitative analysis, aimed to gain in-depth understanding of learning adaptability, difficulties, performance, and strategies to address academic adaptation challenges. One-on-one in-depth interviews were conducted with 10 international students from different nationalities and 4 teachers or administrative staff members. This process allowed verification of the reliability of questionnaire results and provided deeper analysis of learning adaptation issues across various dimensions.

3.5 Statistics Used for Data Analysis

Quantitative data from the questionnaire were analyzed using statistical methods, including reliability and validity testing and confirmatory factor analysis. These analyses provided a comprehensive understanding of the overall learning adaptability of international students and its various dimensions. Qualitative interview data were analyzed thematically to identify the main difficulties, performance issues, and adaptation strategies, which complemented the quantitative findings. The combination of quantitative and qualitative analysis enabled a systematic investigation of differences in learning adaptability among international students and provided a foundation for proposing targeted countermeasures and recommendations.

4. Data Analysis and Findings

4.1 Introduction

This chapter presents the findings of the study on the learning adaptability of international students in China. Using SPSS 26.0 software, the quantitative data collected from the survey were analyzed through frequency statistics, independent sample t-tests, and variance analysis. The goal is to reveal the actual performance of international students in various dimensions of academic adaptability, as well as the differences among groups, providing a clear overview of their adaptation levels within the Chinese higher education context.

4.2 Data Analysis of the Quantitative Data

The overall situation of learning adaptability was evaluated using a four-level classification system based on previous research by Xu Zhiyong, Zhao Zhihong, and others. Scores below 3 points indicate a poor or low level, scores between 3 and 3.75 indicate a general level, scores between 3.75 and 4.25 indicate a general-to-high level, and scores between 4.25 and 5 indicate a high level. Analysis of each dimension revealed that teaching facilities and learning motivation were at a high level, reflecting strong institutional support and students' internal drive. Dimensions such as learning achievement, language ability, learning strategies, and classroom teaching were at a general level, suggesting moderate challenges in academic performance and learning processes. Dimensions including learning adaptability, school atmosphere, and social relationships were also at a general level, indicating areas where students experienced more difficulties in integration and social engagement. Specifically, the mean scores of each dimension were: teaching facilities 4.40, learning motivation 4.29, learning achievement 4.10, language ability 4.02, learning strategy 3.83, classroom

teaching 3.79, school atmosphere 3.70, and social relationships 3.64. The ranking of mean scores from high to low demonstrates that teaching facilities and learning motivation are the strongest areas, whereas social relationships and school atmosphere require more attention to enhance overall learning adaptability. These results highlight the multidimensional nature of academic adaptation and suggest that both institutional support and social integration play key roles in international students' learning experiences.

4.3 Summary of the Results

Overall, international students in China exhibit generally positive learning adaptability, particularly in areas supported by institutional resources, such as teaching facilities and personal motivation. Moderate performance is observed in academic achievement, language proficiency, and learning strategies, reflecting the challenges of adapting to a new educational and linguistic environment. Social integration, including relationships with peers and the broader school atmosphere, shows the lowest levels of adaptability, indicating a need for targeted interventions to promote interaction and inclusion. These findings provide a comprehensive understanding of the strengths and challenges in the academic adaptation of international students, forming a foundation for recommendations to improve educational support and learning outcomes.

5. Conclusion, Discussion, and Recommendation

5.1 Conclusion

This study focused on the learning adaptability of international students in China, using five ordinary undergraduate colleges in Shanghai as the research sample. The results show that the overall learning adaptability of international students is slightly above average, but uneven across different dimensions. Teaching facilities and learning motivation are well-developed, reflecting strong institutional support and students' internal drive. However, significant deficiencies exist in language ability, learning strategies, classroom teaching, school atmosphere, and social relationships. Approximately 30% of students underutilize learning strategies, and language barriers affect course comprehension and daily communication. Classroom teaching models and social integration also present challenges, revealing a polarized trend in overall learning adaptability. In addition, differences in adaptability were found among students from various backgrounds. Students aged 21 or older, majoring in science and engineering, of Asian nationality, or pursuing higher degrees (master's and doctoral) demonstrated better adaptability. Conversely, students under 21, majoring in humanities and social sciences (especially Chinese majors), of European nationality, or at lower academic levels (undergraduates) faced more challenges in adapting to the learning environment.

5.2 Discussion

The findings of this study indicate that both internal and external factors influence international students' learning adaptability. Language ability emerged as a critical challenge, as students often struggle to apply theoretical language knowledge in practical scenarios, which negatively affects their classroom participation, comprehension, and social communication. Learning strategies also pose difficulties, as international students accustomed to independent exploratory learning face challenges adjusting to China's intensive course schedules and collective teaching models. The interview data supported these quantitative results, highlighting themes such as language communication barriers and differences in teaching methods. Students frequently mentioned difficulties in understanding teacher explanations and expressing themselves in Chinese,

as well as the fast pace and diverse assessment methods in Chinese classrooms. These results confirm that instructional models, teaching approaches, and social integration significantly impact academic adaptation, emphasizing the importance of institutional support, teacher guidance, and student-centered strategies.

5.3 Recommendation

To enhance international students' learning adaptability in China, recommendations are proposed at the school, teacher, and student levels. At the school level, universities should optimize curriculum systems by integrating international knowledge with local cultural characteristics and providing tiered courses tailored to students' professional backgrounds and language proficiency. Schools should also foster a diverse campus atmosphere through cultural festivals, cross-cultural clubs, and inclusive activities, while strengthening the internationalization and cross-cultural competence of the teaching staff. Management and supervision mechanisms should be improved by tracking students' learning progress, clarifying departmental responsibilities, and conducting regular assessments and feedback. At the teacher level, educators should increase classroom interaction, cultivate student interest, and adopt hybrid teaching methods that combine online and offline resources. Practical approaches such as project-based learning and collaborative exercises can enhance engagement and learning outcomes. Finally, students themselves should establish clear learning goals, utilize effective strategies such as mind mapping and reflective practices, and actively participate in language, academic, and extracurricular activities to improve professional skills, communication abilities, and social integration. Expanding future research to include students from different regions and higher education levels will provide deeper insights into the factors influencing learning adaptability and support the development of high-quality international education in China.

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Integration of Top Management Team Behavior and Corporate Strategic Flexibility from a Dynamic Perspective: Evidence from Chinese Enterprises

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Abstract

In the context of increasing global uncertainty and intensified competition, maintaining strategic flexibility has become a critical factor for enterprise survival and development. Since the onset of the China-U.S. trade and technology conflicts, Chinese enterprises have faced challenges such as supply chain disruptions, technological barriers, resource constraints, and volatile policy environments. Against this backdrop, this study explores the impact of top management team (TMT) behavior integration on strategic flexibility in Chinese enterprises. Grounded in the theories of dynamic capabilities and upper echelons, this research investigates how TMT behavioral integration, referring to the coordination, communication, and collective decision-making among top managers, enhances a firm's adaptive and coordination flexibility. Data were collected through structured questionnaires distributed to senior executives of Chinese firms. After data cleaning and coding in Microsoft Excel, the dataset was analyzed using SPSS 26.0 and AMOS 24.0 to test the hypothesized relationships between variables. The findings reveal that a high level of TMT behavior integration significantly promotes both adaptive and coordination flexibility, enabling firms to better respond to dynamic environmental changes. Moreover, effective communication and shared cognition within the TMT facilitate the rapid acquisition, processing, and utilization of information, which strengthens decision-making efficiency and resource alignment. This study contributes to the literature by empirically validating the dynamic influence of TMT behavior integration on strategic flexibility, expanding existing research that has largely focused on static team characteristics. Practically, it underscores the importance for enterprises to enhance behavioral integration within their top management teams to foster agility, strengthen strategic responsiveness, and sustain competitive advantage in a turbulent business environment. Future studies should consider longitudinal designs and digital transformation contexts to deepen understanding of these mechanisms.

Keywords: Top Management Team Behavior Integration, Strategic Flexibility, Adaptive Flexibility, Coordination Flexibility, Dynamic Capabilities

1. Introduction

1.1 Background and Importance of the Problem

Since 2016, globalization has been in decline. The China-U.S. trade war and tech war erupted in 2018 and have continued to the present day, escalating great power competition. Turbulence, uncertainty, complexity, and ambiguity have become the new normal in the environment that businesses operate in (Bennett & Lemoine, 2014). The turbulent economic environment has had a significant impact on the survival and development of Chinese enterprises. Supply chain disruptions, technological innovation barriers, increasing resource constraints, intensified market competition, and constantly changing policy and regulatory environments have all posed immense difficulties and challenges for business survival and development. The dynamic nature of the environment has increased the uncertainty in the cognitive process of enterprises, which can easily lead to “both true and false” or “seemingly true but false” judgments. Therefore, as the decision-making body of a company, how the top management team accurately acquires and analyzes environmental information and resources, and makes strategic decisions that benefit the company’s development, is a matter worthy of exploration. In a complex and dynamic external environment, companies maintain strategic flexibility to adapt to changes in the external environment and adjust internal and external resources. Strategic flexibility refers to a company's ability to quickly adjust its strategic direction, optimize resource allocation, and respond rapidly to changes in the external environment when facing changes (Zahra, 1991). Strategic flexibility has become a key factor in maintaining a company's competitiveness (Eisenhardt & Martin, 2000). A dynamic environment requires companies to activate their strategic adaptation characteristics, flexibly adjust their strategic posture, seize market opportunities, and improve their risk-bearing capacity (Wales, Patel, Parida, & Kreiser, 2013), thereby gaining a leading competitive advantage. At the same time, it requires companies to stimulate their strategic coordination characteristics, coordinate internal and external relationships and resources, and improve operational efficiency (Kleinbaum & Stuart, 2014), thereby enhancing the company’s survival ability in a dynamic environment.

Top management team behavior integration refers to the coordination and consistency of top management team members in decision-making, information exchange, team cooperation, etc. (Hambrick & Mason, 1984). Top management team behavior integration can improve the efficiency of information acquisition and sharing by integrating team resources, and promote decision-making efficiency and quality through cooperation and collective decision-making, thus enhancing the company’s competitive and dynamic capabilities (Gittell, Cameron, & Lim, 2006; Hambrick, 1997). The intellectual and social capital of the top management team provides resources and organizational structure support for the company to achieve strategic flexibility; meanwhile, methods to mitigate conflicts and strengthen team collaboration can improve the speed of information collection, processing, and prediction, as well as decision-making efficiency, providing favorable internal conditions for the company to achieve strategic flexibility (Wang Jin, Feng Hua, 2018; Li Weining, Kang Yong, Lü Yuan, 2016). The top management team controls the process of resource acquisition and promotes cooperation and coordination to achieve coordination flexibility (Andersén & Ljungkvist, 2021). In summary, this paper selects Chinese enterprises as the research subject to explore the impact of top management team behavior integration on strategic flexibility, which has both theoretical and practical significance.

1.2 Research Question

This study focuses on Chinese enterprises and primarily explores how companies maintain strategic flexibility in a dynamic environment to adapt to changes and challenges. Top management team behavior integration, as a concept reflecting the internal operational process of the top management team, refers to the collective interaction of team members in terms of thoughts and actions. Top management team behavior integration enhances a company's ability to acquire information, make judgments, and learn. It can also alleviate management conflicts, improving collaboration levels and organizational structure flexibility. This helps companies integrate and coordinate resources, alleviate resource constraints, and support the strategic development needs of the company. In terms of decision-making efficiency, the higher the level of top management team behavior integration, the higher the speed and quality of decision-making. Strategic flexibility is a fundamental capability embedded in a company's organizational structure and processes in a dynamic environment. It is also the ability of the company's systems and processes to quickly and timely adapt to environmental changes and coordinate resources. Corporate strategic decisions are influenced by the top management team. So, does top management team behavior integration impact a company's strategic flexibility? Furthermore, does top management team behavior integration affect both strategic coordination flexibility and adaptive flexibility?

1.3 Research Objective

The top management team, as the core of corporate strategic decision-making, plays a crucial role in achieving strategic flexibility for the company. Although previous studies have focused on the impact of factors such as top management team diversity and leadership style on strategic decisions, these studies have mainly been based on the static characteristics of the top management team's influence on corporate strategy. Research on how the dynamic characteristics of the top management team affect corporate strategic decisions is still relatively scarce. Therefore, top management team behavior integration reflects the dynamic and internal operational state of the team. Understanding how it influences strategic flexibility to enhance a company's adaptability holds both theoretical and practical significance. This study aims to explore the impact of top management team behavior integration on corporate strategic flexibility from a dynamic perspective. The specific research objectives are as follows: First, based on dynamic capabilities theory and upper echelons theory, this study seeks to validate the impact of top management teams on strategic flexibility in the Chinese context. Second, it explores the effects of the top management team on both adaptive flexibility and coordination flexibility in corporate strategy.

2. Literature Review

2.1 Related Concepts and Theories

The dynamic capabilities theory was first proposed in 1997 and further refined in 2007. Dynamic capabilities refer to a firm's ability to integrate, reconfigure, innovate, and deploy resources in a dynamic environment, enabling it to effectively respond to external changes and seize new opportunities (Teece, Pisano, & Shuen, 1997; Teece, 2007). The dynamic capabilities theory posits that a firm's sustained competitive advantage arises from the effective operation of its dynamic capabilities, rather than from fixed resources and capabilities. In rapidly changing environments, firms need to continuously update their strategies, adjust organizational structures, and adapt operational methods to maintain flexibility. This flexibility allows firms to maintain a long-term competitive advantage in the market (Eisenhardt & Martin, 2000). Dynamic capabilities emphasize

that, in the face of rapidly changing market conditions, firms must constantly reconfigure and optimize their resources, capabilities, and strategies to sustain a long-term competitive edge. Dynamic capabilities are not only about accumulating resources but also about how firms flexibly adjust and innovate based on changes in the external environment.

The Upper Echelons Theory was proposed by Hambrick and Mason (1984). Initially, the theory suggested that the overall characteristics of the top management team are more important for the development of the firm. The main viewpoint of the theory is that a firm's strategy and performance are largely determined by the characteristics, behaviors, and cognitive styles of its top management team members. The theory initially focused on demographic characteristics such as the background, experience, cognition, and values of top management team members, and later developed into theories about top management team processes (Finkelstein, Hambrick, & Cannella, 2009) and social integration (O'Reilly, Caldwell, & Barnett, 1989). Ultimately, Hambrick (1994) introduced the concept of top management team behavioral integration, which includes both social integration and task processes. Social integration refers to the collective interaction of team members in terms of thought and action, including three elements: information exchange, cooperative behavior, and collective decision-making. Hambrick believed that the concept of top management team behavioral integration sufficiently considered key factors such as member interaction, opening the "black box" of top management team operations. This study adopts Hambrick's 1994 definition of top management team behavioral integration.

The concept of strategic flexibility was first introduced in the field of strategic management by Ansoff in 1965. He considered strategic flexibility to be one of the important management goals of a firm and an effective way to respond to drastic changes in the external environment. In 1980, he further proposed that strategic flexibility is the most effective means for managing "disruptions" in response to uncertain and rapidly changing external environments. Gulati and Puranam (2009) argued that strategic flexibility is a unique capability for entrepreneurial firms to rapidly implement strategic changes based on the evolution of the external environment. Kleinbaum and Stuart (2014) defined strategic flexibility as a firm's ability to adjust its internal strategic structure to align with external demands. Therefore, in this study, strategic flexibility is defined as the ability of a firm to adjust its strategic structure to respond to changes in the external environment. The division of dimensions is based on the views of West et al. (2010), who suggested that strategic flexibility should include both strategic adaptive flexibility and strategic coordination flexibility. Strategic adaptive flexibility emphasizes the firm's ability to adjust its strategic structure flexibly to keep pace with changes in the external environment, while strategic coordination flexibility emphasizes the firm's ability to coordinate relationships between departmental members and resources to achieve synergistic effects.

2.2 Literature Surveys

The behavioral integration of the top management team not only effectively reduces internal conflicts within the team but also optimizes the allocation and utilization of team resources, leveraging the tacit knowledge and insights within the team to improve information sharing and decision-making efficiency. As a result, it cultivates a strong competitive ability for the enterprise and improves its performance (Hambrick, 1997). The level of top management team behavioral integration not only directly affects the speed of corporate decline but also has a negative impact on corporate decline by improving the quality of strategic decisions (Carmeli & Schaubroeck, 2006). The information sharing, joint decision-making, and collaborative behaviors of the top management team can fully utilize the team's tacit knowledge, promote knowledge exchange and cognitive alignment within the team, achieve sharing of knowledge, information, and resources among individual team members, and enhance the team's learning ability, thus improving the firm's dynamic capabilities (Liu Ligang & Tian Ruiyan,

2014). The factors influencing corporate strategic flexibility include both external factors and internal reasons. Research has shown that factors such as intensified competition in the external environment, supply chain pressures, demand fluctuations, technological advancements, political crises, industry decline, natural disasters, sudden epidemics, and regulatory policy uncertainty (Olhager, 1993; Harrigan, 1980; Aaker & Mascarenhas, 1984; Hitt, Keats, & Marie, 1998; Grewal & Tansuhaj, 2001) can lead enterprises to adopt strategic flexibility to respond to the dynamics of the external environment. Internal factors, on the other hand, determine a firm's ability to implement strategic flexibility.

Wang Tienan, Jia Rongxia, and Chen Ning (2009) believe that in the framework of strategic flexibility, organizational learning ability significantly affects the ability to execute strategic flexibility. The core figure in the top management team, the CEO, with their social network resources, creativity, risk-bearing awareness, and ability to lead a team with mutual trust and high collaboration, also enhances corporate strategic flexibility (Wang Decai, Zhao Shuming, 2014). The overall characteristics of the top management team, such as team social capital, interactive memory, and a climate of mutual trust, promote corporate strategic flexibility (Xie Weihong, Wang Yongjian, Lan Hailin, 2013; Lü Yijing, Chen Shouming, Shao Wanling, 2018; Li Weining, Kang Yong, Lü Yuan, 2016). From the existing research findings, it is evident that there are many factors influencing the impact of the top management team on corporate strategic flexibility. However, traditional research has mostly analyzed the relationship between top management team characteristics, leadership, decision-making behavior, and strategic flexibility from a static perspective. These studies overlook the dynamic capability perspective, which involves opening the "black box" of the internal operations of the top management team and examining how the top management team influences corporate strategic flexibility. Previous research results provide direction and lay the theoretical foundation for this study. This research aims to explore the relationship between the top management team and corporate strategic flexibility from a dynamic perspective, enriching the theoretical framework of strategic flexibility.

2.3 Conceptual Framework

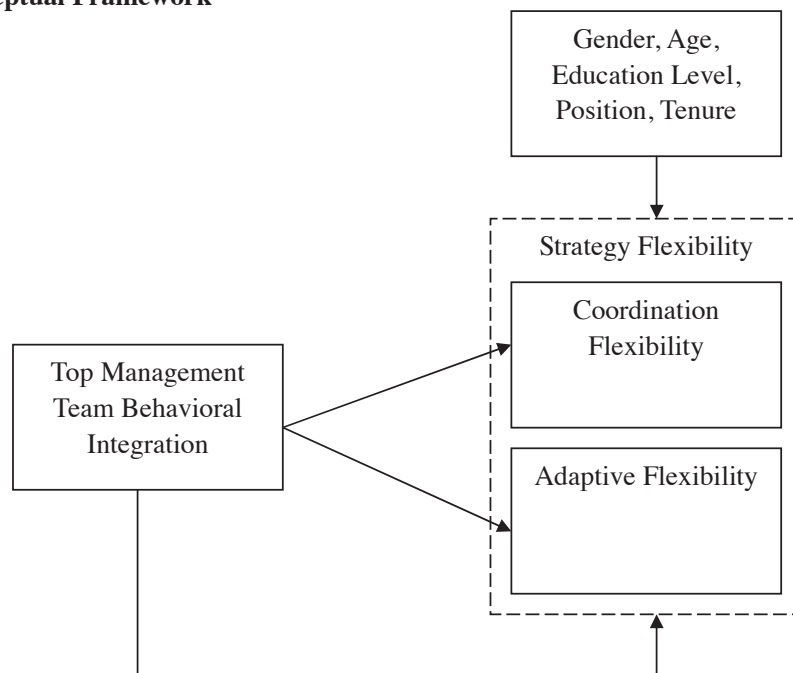


Figure 1 Conceptual Framework

2.4 Research Hypothesis

Strategic flexibility is a fundamental capability embedded in the organizational structure and processes, and it is the ability of a company's systems and processes to quickly and timely adapt to environmental changes and coordinate resources. It includes adaptive flexibility and coordination flexibility. Adaptive flexibility emphasizes a company's ability to adjust its strategic structure to keep pace with changes in the external environment, while coordination flexibility emphasizes the ability of a company to coordinate relationships and resources among departments to achieve synergistic effects (West et al., 2010). The dynamic perspective emphasizes a company's adaptability to the external environment and the coordination of internal organizational structures and resources. It tests the company's ability to continuously adjust its strategy to achieve operational goals in a constantly changing environment. The top management team, as the core of decision-making, influences the company's strategic decision-making and execution capabilities. Top management team behavioral integration refers to how team members collaborate and coordinate during the decision-making process to reach a consensus on strategic direction and goals (Teece, Pisano, & Shuen, 1997). This integration can improve decision-making efficiency and quality, thus promoting flexible strategic adjustments (Hambrick, 1994). Top management team behavioral integration transmits the values of cooperation and sharing within the team, accelerates decision-making, information gathering, processing, and forecasting speed, and provides favorable internal conditions and institutional guarantees for achieving strategic flexibility (Wang Jin & Feng Hua, 2018). Therefore, this study proposes the following hypothesis:

Hypothesis 1: Top management team behavioral integration has a significant positive impact on strategic flexibility.

The information exchange in top management team behavioral integration improves a company's ability to acquire and integrate information in a dynamic environment, enabling the company to quickly identify and exploit opportunities. Collective decision-making ensures the efficiency of strategic decision-making and fully utilizes the wisdom and insights of team members, compensating for individual shortcomings and biases, thereby ensuring the correctness of strategic decisions. Top management team behavioral integration not only integrates the tacit knowledge resources of team members to improve the company's learning ability but also utilizes the social capital, such as networks, relationships, and trust, that team members possess to directly impact the company's ability to acquire resources (Boone & Hendriks, 2009). This alleviates resource constraints and promotes strategic flexibility, thus directly enhancing the company's adaptability to the external environment. Therefore, we further propose the following hypothesis:

Hypothesis 1a: Top management team behavioral integration has a significant positive impact on strategic adaptive flexibility.

The cooperative behavior among top management team members enhances collaboration between team members and departments within the company. It alleviates internal conflicts, meets the communication and collaboration requirements of strategic flexibility, and promotes the agility of the company's decision-making mechanisms, the flexibility of organizational structures, and the harmony of inter-departmental communication and collaboration. This provides a guarantee for maintaining strategic coordination flexibility. Furthermore, top management team behavioral integration can effectively alleviate the conflicts between internal and external stakeholders, thus promoting strategic change (Wiersema & Bantel, 1992). Therefore, we propose the following hypothesis:

Hypothesis 1b: Top management team behavioral integration has a significant positive impact on strategic coordination flexibility.

3. Research Methodology

3.1 Research Design

This study adopts a quantitative research method to analyze data numerically, aiming to explore the relationship between top management team (TMT) behavioral integration and strategic flexibility. Data collection is conducted through a questionnaire survey. To ensure the validity and reliability of the instrument, the measurement of variables employs established scales from both domestic and international studies. Except for control variables, all items are measured using a five-point Likert scale, where 1 represents “strongly disagree,” 2 represents “disagree,” 3 represents “neutral,” 4 represents “agree,” and 5 represents “strongly agree.” Strategic flexibility is divided into two dimensions: coordination flexibility and adaptive flexibility. The questionnaire items for coordination flexibility include: the company can change its organizational system faster than existing and potential competitors to support strategic adjustments; the company can coordinate departmental relationships to respond to changes in strategic relationships; the company can coordinate relationships with strategic partners to acquire necessary resources; and the company can achieve synergies with strategic members. The questionnaire items for adaptive flexibility include: the company’s strategy is based on an in-depth understanding of internal performance and capabilities; the company’s strategy is based on an in-depth understanding of the external environment; the company can flexibly adjust its strategic structure to adapt to changes in strategic priorities; the company can grasp the direction of strategic evolution and adapt quickly; and the company can rapidly adapt to changes in the speed of strategic relationships (Yao, Huang, & Dong, 2019; Nwachukwu & Vu, 2020). The questionnaire scale for top management team behavioral integration consists of four items: the TMT generates genuinely effective problem-solving solutions; the TMT fully shares relevant information; team members are willing to help each other to complete work tasks on time; and different opinions from team members are seriously considered by the decision-making team (Simsek, Veiga, Lubatkin, & Dino, 2005). Control variables are selected based on existing research, as demographic characteristics may influence the results. Therefore, gender, age, education level, position, and years of work experience of TMT members are included as control variables.

3.2 Population and Sample

The research sample consists of Chinese enterprises, excluding state-owned enterprises in sectors such as public welfare, energy, and finance. The study focuses on enterprises operating in competitive markets. Survey respondents were primarily obtained through multiple channels, including MBA and doctoral graduate programs in business administration, organizations where the researchers have previously worked, and partner organizations assisting with questionnaire distribution. To ensure the reliability and uniqueness of the responses, one representative member of each top management team was selected, based on the team’s willingness, to participate in an interview and complete the questionnaire.

3.3 Research Instruments

After the questionnaires were collected, the data underwent a systematic process of cleaning and screening to ensure quality and accuracy. Incomplete, inconsistent, or invalid responses were

carefully identified and removed to enhance the reliability of the dataset. The valid responses were then coded in Microsoft Excel according to their corresponding variables, organized, and categorized for subsequent analysis. During this process, multiple researchers independently cross-checked the data entry to minimize human error and maintain consistency across records. The finalized dataset was subsequently imported into statistical software programs, SPSS version 26.0 and AMOS version 24.0, for comprehensive data analysis. SPSS 26.0 was primarily utilized for descriptive and inferential statistical analyses, including the computation of means, standard deviations, and correlations among variables, as well as reliability testing using Cronbach's alpha to assess the internal consistency of measurement scales.

Furthermore, exploratory data analysis was performed to verify normality, linearity, and the absence of multicollinearity, ensuring that the data met the assumptions required for subsequent hypothesis testing. AMOS 24.0 was employed for confirmatory factor analysis (CFA) to assess the construct validity of the measurement model and for structural equation modeling (SEM) to examine the causal relationships among top management team behavioral integration, strategic flexibility, and their associated dimensions. This comprehensive analytical approach not only ensured the precision and robustness of the research findings but also provided empirical support for evaluating the proposed conceptual framework. The combination of SPSS and AMOS enabled both exploratory and confirmatory analyses, allowing the study to validate measurement instruments, test hypotheses rigorously, and draw meaningful conclusions about the relationships between top management team behavioral integration and strategic flexibility within the organizational context.

3.4 Data Collection

The questionnaires were collected through both offline and online methods. The offline questionnaires were collected on-site after respondents completed them, while the online questionnaires were collected through QR codes or web links generated by the questionnaire tool, allowing for automatic collection once the respondent completed the survey. The survey period was from April 2024 to June 2024. The survey subjects involved 420 companies from various regions and industries, with 420 questionnaires distributed. A total of 412 questionnaires were collected, resulting in a response rate of 98%. After excluding invalid questionnaires that were incomplete, had unusually long response times, or contained highly consistent answers, a final total of 360 valid questionnaires were obtained, yielding an effective response rate of 87.3%. Among the survey respondents, 203 male senior managers accounted for 56.4%, while 157 female senior managers accounted for 43.6%. In terms of age, 7 senior managers were 25 years old or younger, accounting for 1.9%; 61 senior managers were between 26 and 35 years old, accounting for 16.9%; 287 senior managers were between 36 and 55 years old, accounting for 79.7%; and 5 senior managers were 56 years old or older, accounting for 1.4%. In terms of education level, the majority of senior managers had a bachelor's degree, with 209 individuals accounting for 58.1%; followed by 92 individuals with a master's degree, accounting for 25.6%; 46 individuals with a diploma or lower level of education, accounting for 12.8%; and 13 individuals with a doctoral degree, accounting for 3.6%.

In terms of job positions, there were 85 general managers, accounting for 23.6%; 30 deputy general managers, accounting for 8.3%; 20 chairmen, the smallest group, accounting for 5.6%; 204 functional department heads, the largest group, accounting for 56.7%, making up more than half of the survey subjects; and 21 board secretaries, accounting for 5.8%. In terms of work experience, 19 individuals had 5 years or less of experience, accounting for 5.3%; 31 individuals had between 6 and 10 years of experience, accounting for 8.9%; 178 individuals had between 11 and 20 years of experience, accounting for 49.4%; and 131 individuals had more than 21 years of experience, accounting for 36.4%. Details are shown in Table 1.

Table 1 Sample Descriptive Statistics

Control Variable	Group	Number of Companies	Percentage (%)
Gender	Male	203	56.4
	Female	157	43.6
Age	25 Years and Below	7	1.9
	26 to 35 Years	61	16.9
	36 to 55 Years	287	79.7
	56 years and Above	5	1.4
Education Level	Diploma or Below	46	12.8
	Bachelor's Degree	209	58.1
	Master's Degree	92	25.6
	Doctorate	13	3.6
Position	General Manager	85	23.6
	Deputy General Manager	30	8.3
	Chairman	20	5.6
	Functional Department Head	204	56.7
	Board Secretary	21	5.8
Work Experience	5 Years or Below	19	5.3
	6 to 10 Years	32	8.9
	11 to 20 Years	178	49.4
	21 Years or Above	131	36.4

3.5 Statistics Used for Data Analysis

The statistical analysis process includes both descriptive and inferential analyses. Descriptive statistics, including mean, standard deviation, frequency, and percentage, were used to summarize the demographic characteristics of respondents and provide an overview of the study variables. Reliability analysis using Cronbach's alpha was conducted to assess the internal consistency of the measurement scales. Validity analysis, including confirmatory factor analysis (CFA) using AMOS 24.0, was performed to evaluate the construct validity of the variables. Correlation analysis was used to identify the relationships among the variables. Finally, multiple regression analysis and structural equation modeling (SEM) were employed to test the research hypotheses and examine the direct and indirect effects between top management team behavioral integration and strategic flexibility.

4. Data Analysis and Findings

4.1 Introduction

This chapter uses AMOS 24.0 and SPSS 26.0 software to analyze the survey data for statistical analysis, testing the validity and reliability of variable measurements, as well as the rationality of the theoretical model. It further examines the relationship between the independent variable, top management team behavior integration, and strategic flexibility (adaptation flexibility and coordination flexibility), providing empirical support for the research questions.

4.2 Data Analysis of the Quantitative Data

4.2.1 Descriptive Statistics and Correlation Analysis

Before hypothesis testing, this study conducts necessary descriptive statistics and correlation analysis on the basic characteristics of the data. Descriptive statistical analysis generally includes mean and standard deviation. The Pearson correlation coefficient measures the linear correlation between two numerical variables. In this study, the correlation coefficients of control variables, except for the correlation between years of work and gender (0.313) and the correlation between age and years of work (0.582), are all below 0.3, indicating weak correlation. For other variables, the correlation coefficients, except for strategic flexibility and its two dimensions, are all below 0.6. Therefore, the correlation coefficients between variables meet the standard requirements, and no multicollinearity issues exist. Details are shown in Table 2.

Table 2 Descriptive Statistics and Correlation Matrix

Variable	Gender	Age	Education Level	Position	Tenure	Top Management Team Behavior Integration	Strategic Flexibility	Coordinative Flexibility	Adaptive Flexibility
Gender	1								
Age	.148**	1							
Education Level	.019	.059**	1						
Position	-.050	-.092	-.066	1					
Tenure	.313**	.582**	.109*	-.018	1				
Top Management Team Behavior Integration	.017	-.110*	.028	.106*	-.062	1			
Strategic Flexibility	.155**	.001	-.003	.040	.041	.519**	1		
Coordinative Flexibility	.132*	-.012	-.026	.037	.064	.467**	.822**	1	
Adaptive Flexibility	.129*	.012	.020	.030	.007	.402**	.849**	.396**	1
Mean						2.846	3.324	3.331	3.317
Standard Deviation						.856	.711	.818	.882

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4.2.2 Validity and Reliability Analysis

Cronbach's α is used to assess the internal consistency of Likert scale measurements, and its value typically ranges from 0 to 1. A value greater than 0.6 is generally required, and a value above 0.7 indicates that the measurement tool has high reliability. Composite reliability (CR) is calculated using standardized factor loadings, and a CR value greater than 0.7 indicates good composite reliability. The internal structural validity is evaluated using standardized factor loadings, with values generally greater than 0.6 indicating good internal structural validity. The evaluation index for convergent validity is the Average Variance Extracted (AVE), and typically, an AVE value greater than 0.5 indicates good convergent validity. Based on the calculations, the Cronbach's α values for this study's data are all above 0.8, with only one factor loading being 0.660, while the others are all above 0.7. The CR values are all above 0.8, and the AVE values are also above 0.5. Therefore, it can be concluded that the reliability and validity tests for each construct meet the required standards, and the next phase of research can proceed. The details are shown in Table 3.

Table 3 Reliability and Validity Analysis

Variable	Items	Cronbach's α	Factor Loadings	CR	AVE
Top Management Team Behavior Integration	TMT1	0.878	0.810	0.856	0.645
	TMT2		0.823		
	TMT3		0.818		
	TMT4		0.760		
Coordinative Flexibility	CF1	0.884	0.769	0.885	0.607
	CF2		0.760		
	CF3		0.849		
	CF4		0.798		
	CF5		0.714		
Adaptive Flexibility	AF1	0.908	0.788	0.902	0.674
	AF2		0.826		
	AF3		0.858		
	AF4		0.822		
	AF5		0.809		

4.2.3 Regression Analysis

Model 1 shows that, except for gender, no control variables have a causal relationship with the dependent variable (β for gender = 0.160, $P < 0.05$; β for age = -0.021, $P > 0.05$; β for education = -0.002, $P > 0.05$; β for position = 0.046, $P > 0.05$; β for work experience = 0.004, $P > 0.05$). The overall regression model is not significant ($F = 1.958$, $P > 0.05$). From Model 2, it can be seen that the standardized coefficient β for the independent variable top management team behavior integration and the dependent variable strategic flexibility is 0.465, with significance passing the test ($P < 0.001$), and the overall regression model is significant ($F = 18.432$, $P < 0.001$). Therefore, it can be concluded that there is a positive effect of the independent variable top management team behavior integration on corporate strategic flexibility. Hypothesis 1 is supported.

Model 3 shows that, except for gender, no control variables have a causal relationship with the dependent variable (β for gender = 0.122, $P < 0.05$; β for age = -0.063, $P > 0.05$; β for education = -0.030, $P > 0.05$; β for position = 0.437, $P > 0.05$; β for work experience = 0.066, $P > 0.05$). The overall

regression model is not significant ($F = 1.685$, $P > 0.05$). From Model 4, it can be seen that the standardized coefficient β for the independent variable top management team behavior integration and the dependent variable coordination flexibility is 0.471, with significance passing the test ($P < 0.001$), and the overall regression model is significant ($F = 18.543$, $P < 0.001$). Therefore, it can be concluded that there is a positive effect of the independent variable top management team behavior integration on coordination flexibility. Hypothesis 1a is supported.

Model 5 shows that, except for gender, no control variables have a causal relationship with the dependent variable (β for gender = 0.144, $P < 0.01$; β for age = 0.025, $P > 0.05$; β for education = 0.024, $P > 0.05$; β for position = 0.040, $P > 0.05$; β for work experience = -0.055, $P > 0.05$). The overall regression model is not significant ($F = 1.450$, $P > 0.05$). From Model 6, it can be seen that the standardized coefficient β for the independent variable top management team behavior integration and the dependent variable adaptive flexibility is 0.404, with significance passing the test ($P < 0.001$), and the overall regression model is significant ($F = 12.869$, $P < 0.001$). Therefore, it can be concluded that there is a positive effect of the independent variable top management team behavior integration on adaptive flexibility. Hypothesis 1b is supported.

Table 4 Regression Analysis Results

Variable	Strategic Flexibility		Coordinative Flexibility		Adaptive Flexibility	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Gender	0.160 [*]	0.142 [*]	0.122 [*]	0.013	0.144 ^{**}	0.127 [*]
Age	-0.021	0.015	-0.063	-0.017	0.025	0.065
Education Level	-0.002	-0.010	-0.030	-0.050	0.024	0.007
Position	0.046	0.005	0.437	-0.011	0.040	-0.001
Tenure	0.004	0.033	0.066	0.076	-0.055	-0.047
top management team behavior integration		0.465 ^{***}		0.471 ^{***}		0.404 ^{***}
R^2	0.027	0.238	0.023	0.240	0.020	0.179
Adjust R^2	0.013	0.266	0.009	0.227	0.006	0.166
ΔR^2	0.027	0.212 ^{***}	0.023	0.216 ^{***}	0.020	0.159
F	1.958	18.432 ^{***}	1.685	18.543 ^{***}	1.450	12.869 ^{***}

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4.3 Summary of the Results

The empirical analysis above shows that top management team behavior integration has a significant positive effect on corporate strategic flexibility. The higher the level of top management team behavior integration, the more favorable it is for the company to adopt a flexible strategy. Further research confirms that there is a positive correlation between top management team behavior integration

and the dimensions of strategic flexibility (coordination flexibility and adaptive flexibility), indicating the importance of top management team behavior integration for organizational coordination and adaptation to external environmental changes. This study fully demonstrates the importance and necessity of top management team behavior integration in maintaining strategic flexibility in today's dynamic environment, making it a key factor for a company's adaptation to the environment and pursuit of development.

5. Conclusion, Discussion, and Recommendation

5.1 Conclusion

Top management team behavior integration in a company refers to the collective interaction of members' thoughts and actions. It helps the company integrate team resources, enhance the ability to acquire information and scarce resources, improve decision-making efficiency and quality, and promote the company's survival capabilities (Hambrick, 1997). It also fully utilizes the team's tacit knowledge, facilitates knowledge exchange and cognitive alignment within the team, and achieves tacit resource sharing between individual team members, thereby enhancing the company's dynamic capabilities (Liu Ligang, Tian Ruiyan, 2014). Additionally, top management team behavior integration alleviates team conflicts through collaboration and communication, which helps the company build organizational flexibility. Therefore, this paper discusses two main issues: first, the impact of top management team behavior integration on corporate strategic flexibility; second, the impact of top management team behavior integration on the various dimensions of strategic flexibility. Through theoretical analysis, this paper proposes a theoretical model regarding how top management team behavior integration affects strategic flexibility. Primary data for the research was obtained through a survey, and statistical analysis was conducted using SPSS and Amos software to test the proposed research hypotheses. The following conclusions were drawn: The higher the level of top management team behavior integration in a company, the more conducive it is for the company to maintain strategic flexibility. It not only promotes coordination flexibility in a dynamic environment but also enhances adaptive flexibility. Top management team behavior integration is a key factor in a company's ability to maintain strategic flexibility.

5.2 Discussion

This study focuses on Chinese companies and explores the relationship between top management team behavior integration and corporate strategic flexibility from a dynamic perspective. The research findings indicate that the level of top management team behavior integration has a significant impact on corporate strategic flexibility. This provides new empirical evidence for the relationship between top management team behavior integration and strategic flexibility, particularly in dynamic environments, highlighting the influence of top management team behavior integration on a company's strategic adjustment capabilities. For corporate managers, optimizing top management team behavior integration, selecting appropriate leadership styles, and establishing effective information-sharing mechanisms will help enhance the company's strategic flexibility in uncertain market environments and improve its competitiveness.

This study has limitations in data acquisition. The cross-sectional data obtained through the questionnaire survey did not consider the time factor. Therefore, future research could consider using time-series data, conducting multiple rounds of surveys, or using secondary data to better reflect the relationship between top management team behavioral integration and strategic flexibility. Additionally, the research model did not delve deeply into the underlying mechanisms by which top management

team behavioral integration affects strategic flexibility. Future research could explore how top management team behavioral integration impacts strategic flexibility in the context of digitalization, among other directions.

5.3 Recommendation

Strategic flexibility is crucial for a company's ability to adapt to dynamic environments. A dynamic environment requires companies to have sufficient external environmental adaptability, as well as internal flexibility in organizational structure and resource coordination. Many studies have confirmed that strategic flexibility is one of the most effective ways for companies to cope with dynamic environments. Therefore, in the current environment, companies must maintain strategic flexibility to survive and develop. This study also confirms that top management team behavioral integration has a positive effect on strategic flexibility. By optimizing top management team behavioral integration, companies can ensure strategic flexibility in areas such as corporate culture, resource allocation, cross-departmental collaboration, and decision-making mechanisms.

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Research on the Logistics Efficiency Evaluation of Hunan Province Based on the DEA Model

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Abstract

This study evaluates the logistics efficiency of Hunan Province using a DEA-based input–output model at the prefecture level, providing empirical insights into regional disparities and key drivers of performance. As a vital hub in the Yangtze River Economic Belt and the “Central China Revitalization” strategy, Hunan plays a strategic role in connecting the Guangdong–Hong Kong–Macao Greater Bay Area. Despite rapid development and expanding logistics infrastructure, inefficiencies and regional imbalances persist. Using 2022 data from 14 prefecture-level cities, the DEA-BCC model assesses pure technical efficiency (PTE), scale efficiency (SE), and returns to scale (RTS), revealing that only three cities, Changsha, Xiangtan, and Chenzhou, achieve DEA efficiency. These cities, located in the economically advanced central region, exhibit strong industrial foundations, advanced digitalization, and efficient resource allocation. In contrast, Western Hunan lags behind due to weak infrastructure, limited technological adoption, and talent shortages. Factor analysis identifies the number of employees in the transportation, warehousing, and postal sectors and freight turnover as the most influential variables affecting logistics efficiency. The results indicate that efficiency disparities stem from unequal economic development, technological readiness, and management capability. To address these gaps, the study recommends strengthening regional cooperation, accelerating digital and smart-logistics adoption, and developing a talent cultivation system to enhance human capital and managerial innovation. These strategies aim to promote balanced, sustainable logistics development and improve provincial integration within national initiatives such as the “Belt and Road” and the “Three Highs and Four New” strategy. The research not only contributes to the empirical understanding of logistics efficiency at the regional level but also provides actionable policy implications for optimizing industrial layout, resource allocation, and innovation-driven logistics transformation in Hunan Province.

Keywords: Logistics Efficiency, Hunan Province, DEA Model, Regional Development, Smart Logistics

1. Introduction

1.1 Background and Importance of the Problem

As a highly integrated and composite industry, logistics not only fulfills multiple functions such as transportation, warehousing, and packaging, but also extends industrial chains, optimizes value chains, and allocates resources efficiently, thereby becoming a cornerstone of high-performance supply chains. In the face of new patterns of globalization and regional coordinated development, logistics has emerged as a vital support for high-quality regional economic growth. Situated in central China and guarding the key corridor of the Yangtze River Economic Belt, Hunan Province shoulders the strategic mission of “Central China Revitalization” and joint development with the Guangdong-Hong Kong-Macao Greater Bay Area. In recent years, Hunan’s logistics sector has grown rapidly: in 2022, its total social logistics volume exceeded RMB 14 trillion, and both infrastructure and service capacity have been significantly enhanced, making logistics a major engine of regional economic expansion. However, within the province there remain issues of imbalance and inefficiency. Economically lagging areas such as Western Hunan suffer high logistics costs and poor timeliness due to mountainous terrain and underdeveloped infrastructure, resulting in spoilage rates for local specialty agricultural products far exceeding those in core urban areas. Some logistics parks lack unified information dispatch platforms, leading to serious backhaul empty-runs and underutilized economies of scale. Additionally, levels of informatization and automation require improvement, and a green, low-carbon transition remains urgent. Under the strategic guidance of the “Three Highs and Four New” initiative, it is therefore of both theoretical and practical importance to explore how regional coordination, technological empowerment, and talent support can comprehensively enhance logistics efficiency in Hunan Province.

1.2 Research Question

This study seeks to address the following key research questions:

- 1) How can logistics efficiency be comprehensively improved across Hunan’s prefecture-level cities within the context of coordinated regional development?
- 2) What roles do technology allocation, industrial scale, and resource integration play in enhancing logistics efficiency?
- 3) How can spatial differentiation and performance disparities among cities be quantified and addressed to optimize logistics operations and support high-quality regional economic growth?

1.3 Research Objective

The main objectives of this study are as follows:

- 1) To uncover the mechanisms driving logistics efficiency improvements under the coordinated development framework of the Yangtze River Economic Belt and the Guangdong-Hong Kong-Macao Greater Bay Area.
- 2) To construct an input-oriented DEA-BCC model consistent with the “Three Highs and Four New” strategic requirements.

3) To perform systematic calculations and spatiotemporal pattern analyses of 2022 logistics input-output data, quantifying and comparing each city's pure technical efficiency and scale efficiency.

4) To analyze the dynamic coordination between technology allocation and industry scale, providing empirical support for Hunan's place-based logistics strategies.

5) To promote province-wide integrated development centered on efficiency improvement, thereby advancing high-quality implementation of the "Belt and Road" and "Central China Revitalization" initiatives.

2. Literature Review

2.1 Related Concepts and Theories

Logistics efficiency serves as a core indicator of industrial development and regional competitiveness, encompassing delivery quality, timeliness, and service level. It reflects the operational effectiveness of logistics systems and correlates closely with regional GDP, transportation network conditions, industrial structures, and policy environments. From a theoretical perspective, logistics efficiency embodies both technical efficiency, the ability to achieve maximum output from given inputs, and scale efficiency, which assesses whether logistics operations are optimally sized. These concepts align with systems theory, viewing logistics as a dynamic subsystem within broader regional economic networks. The measurement and analysis of logistics efficiency therefore contribute not only to understanding operational performance but also to identifying structural bottlenecks and guiding policy optimization. The Data Envelopment Analysis (DEA) model provides the theoretical foundation for most logistics efficiency studies. As a nonparametric technique, DEA does not require preset weights and can handle multiple inputs and outputs, making it suitable for evaluating logistics systems characterized by complex, interdependent processes. Its extensions, such as the BCC model, the Malmquist productivity index, and the Tobit regression model, enable dynamic efficiency measurement, factor analysis, and spatial-temporal comparisons, thereby supporting evidence-based policymaking in regional logistics development.

2.2 Literature Surveys

Extensive research has employed DEA models to assess logistics efficiency at national, regional, and provincial levels. At the regional level, Lian and Cheng (2017) used DEA to measure logistics efficiency across 18 key Chinese provinces, revealing significant disparities between coastal and inland regions. Similarly, Cheng and Liu (2017) applied the DEA-Malmquist index to analyze agricultural logistics efficiency in western China, emphasizing the influence of geographic and economic conditions. Liu and Tian (2019) utilized the BCC model to demonstrate that industrial clustering contributes to increasing returns to scale, while Chu et al. (2020) combined the DEA-Malmquist index with Tobit regression to develop a comprehensive logistics firm efficiency evaluation framework. Moreover, Guo (2022) integrated a DEA-SBM super-efficiency model with spatial Durbin regression to explore low-carbon transportation efficiency in the Yangtze River Economic Belt.

At the provincial level, Hong (2024) investigated Anhui Province's logistics efficiency using DEA and found overall low efficiency with notable regional disparities, suggesting the need for resource reorganization, talent cultivation, and digital transformation. Likewise, Li and Zhao (2024)

applied a DEA–Tobit model to Jilin Province, concluding that while comprehensive efficiency is high, scale efficiency remains inadequate. They recommended leveraging the Northeast Revitalization strategy, optimizing resource allocation, and accelerating the construction of smart logistics infrastructure.

Research specific to Hunan Province remains relatively limited. Zhang et al. (2013) assessed logistics efficiency across 14 cities and found that the Chang-Zhu-Tan metropolitan area led in performance, while western Hunan lagged significantly, recommending the adoption of technology-intensive logistics and intelligent facilities. Niu et al. (2021) employed a DEA–Tobit model to show that although Hunan’s overall logistics efficiency is relatively high, scale efficiency fluctuates due to uneven development. They proposed optimizing resource allocation, reducing administrative barriers, and strengthening management systems.

2.3 Conceptual Framework

Building on prior studies, this research adopts a conceptual framework that integrates DEA efficiency theory, regional development theory, and systems theory to analyze logistics efficiency in Hunan Province. The framework conceptualizes logistics systems as input–output structures influenced by internal and external factors. The inputs include capital investment, labor, transportation infrastructure, and information systems; the outputs represent logistics value added, freight turnover, and delivery timeliness. Efficiency outcomes are shaped by contextual variables such as industrial agglomeration, digital transformation, and policy support.

Within this framework, regional logistics efficiency is determined by two dimensions:

- (1) Pure technical efficiency, reflecting management and technology utilization capacity; and
- (2) Scale efficiency, reflecting the rationality of operational scale and resource allocation.

The interaction between these dimensions reveals the underlying mechanisms driving regional logistics performance disparities. This framework thus provides the analytical foundation for quantifying logistics efficiency, identifying regional imbalances, and formulating policy recommendations aligned with Hunan’s “Three Highs and Four New” strategy.

2.4 Research Hypothesis

Drawing on the theoretical and empirical literature, the following research hypotheses are proposed:

H1: There are significant spatial differences in logistics efficiency among Hunan’s prefecture-level cities.

H2: Regions with higher levels of industrial clustering and digitalization exhibit greater logistics efficiency.

H3: Pure technical efficiency and scale efficiency jointly determine the overall logistics efficiency of each region.

H4: Policy support, infrastructure development, and talent concentration positively influence logistics efficiency.

H5: Enhancing regional coordination within the Yangtze River Economic Belt framework will promote balanced logistics development across Hunan Province.

3. Research Methodology

3.1 Indicator Selection and Data Sources

When applying an input-oriented DEA-BCC model, the choice of input and output indicators critically affects accuracy and reliability. Drawing on the studies of Lu (2022), Cai (2025), Duan & Duan (2025) and adhering to principles of necessity, representativeness, and data availability, this paper defines input variables across three dimensions, human, financial, and physical capital, and output variables from a scale perspective. Specifically:

1) Inputs Indicator

Total length of classified highways: Reflects transport infrastructure completeness, network density, and balanced layout, shortening freight and personnel travel times and strengthening cost control and market reach. Number of employees in transportation, warehousing, and postal industries: Captures the workforce for fundamental operations (sorting, warehousing) and advanced skills (intelligent dispatch, supply-chain analytics), indicative of the logistics system's service capability. Fixed-asset investment in transportation: Represents government and corporate capital toward roads, warehousing, and hubs, underscoring strategic emphasis on infrastructure and funding essential for smart equipment and information platform upgrades.

2) Outputs Indicator

Road freight volume: Measures the scale and market activity of regional freight transport, reflecting supply-chain throughput intensity. Growth here depends on multimodal integration and smart dispatch to shift from pure scale expansion to efficiency-driven development. Freight turnover: Combines transport distance and cargo volume to reveal network coverage and operational efficiency. Analyzing turnover trends provides insights into supply-chain timeliness and low-carbon transition progress, guiding balanced "quantity- and-efficiency" logistics strategies. The complete list of input and output indicators is presented in Table 1.

Table 1 Input-Output Indicator System for Hunan Province's Logistics Industry

Indicator Type	Indicator Name	Variable	Unit
Input Indicators	Mileage of graded highways	X1	Kilometers (km)
	Employment numbers in transportation, warehousing, and postal sectors	X2	10,000 persons
	Transportation expenditure	X3	Billion yuan (¥)
Output Indicators	Highway freight volume	Y1	10,000 tons
	Freight turnover	Y2	10,000 ton-kilometers

3.2 Data Source

This study utilizes cross-sectional data from 14 prefecture-level cities in Hunan Province for the year 2022 to analyze regional logistics efficiency disparities. All data were sourced from the “Hunan Statistical Yearbook 2023” and official websites of the Hunan Provincial Department of Transportation, ensuring the authenticity and reliability of the research.

Data Envelopment Analysis (DEA), developed from the concept of relative efficiency proposed by American operational researchers A. Charnes and W.W. Cooper, includes the CCR and BCC models. Introduced to China by scholars such as Wei Quanling, DEA has evolved into a vital analytical tool in efficiency evaluation. Within the DEA framework, the CCR model assumes constant returns to scale (CRS) and constructs a production frontier to comprehensively measure the technical efficiency and scale efficiency of decision-making units (DMUs). In contrast, the BCC model relaxes the fixed-scale constraint by decomposing technical efficiency into pure technical efficiency and scale efficiency, enabling clearer identification of efficiency loss sources. While the CCR model is suitable for preliminary diagnostics of overall efficiency, the BCC model, based on a convex production possibility set, provides dual-dimensional insights into technical management and economies of scale, thereby guiding resource allocation optimization. Given the characteristics of the logistics industry, this study employs the BCC model under variable returns to scale (VRS). The mathematical formulation is as follows:

$$\theta^* = \min \theta$$

$$\text{s.t.} \left\{ \begin{array}{l} \sum_{j=1}^n x_{ij} \lambda_j \leq \theta x_{i0} \\ \sum_{j=1}^n y_{rj} \lambda_j \geq y_{rn} \\ \lambda_j \geq 0, \sum_{j=1}^n \lambda_j = 1 \\ i = 1, 2, \dots, m; r = 1, 2, \dots, q; j = 1, 2, \dots, n \end{array} \right.$$

In the above formula, x_{ij} and y_{rj} represent input and output indicators, respectively. The variable λ denotes the linear combination coefficients of the decision-making units (DMUs). When $\lambda_j \geq 0$, $\sum_{j=1}^n \lambda_j = 1$, this indicates variable returns to scale (VRS). The optimal solution θ^* , which measures efficiency, ranges between [0, 1]. If the calculated efficiency value equals 1, the DMU is considered DEA-efficient; if it is less than 1, the DMU is DEA-inefficient.

4. Data Analysis and Findings

4.1 Introduction

This chapter presents the data analysis and empirical findings of the study, focusing on the logistics efficiency of Hunan Province at the prefecture level. Using the Data Envelopment Analysis (DEA) model implemented through DEAP 2.1 software, the study quantitatively evaluates the relative efficiency of logistics systems across 14 cities and autonomous prefectures in 2022. The analysis aims to assess the degree of input–output optimization, identify inefficiencies, and explore the spatial distribution of logistics performance. The quantitative results are examined through three

main perspectives: (1) efficiency analysis, (2) projection analysis, and (3) factor analysis of efficiency determinants. The efficiency analysis evaluates technical, pure technical, and scale efficiencies and examines the returns to scale across regions. The projection analysis identifies input redundancies and output shortfalls, providing guidance for targeted resource optimization. Finally, the factor analysis determines the relative importance of different input and output indicators, thereby refining the evaluation framework and informing improvement strategies. Together, these analyses offer a comprehensive understanding of the operational performance and structural characteristics of the logistics sector in Hunan Province.

4.2 Data Analysis of the Quantitative Data

Using DEAP2.1 software, the logistics efficiency evaluation results for the 14 prefecture - level cities in Hunan Province in 2022 are presented in Table 2.

Table 2 Logistics Efficiency Evaluation of 14 Cities and Autonomous Prefectures in Hunan Province (2022)

DMU	TE	PTE	SE	RTS
Changsha	1	1	1	-
Zhuzhou	0.743	0.861	0.864	irs
Xiangtan	1	1	1	-
Hengyang	0.359	0.553	0.648	irs
Shaoyang	0.331	0.528	0.628	irs
Yueyang	0.507	0.58	0.875	irs
Changde	0.833	1	0.833	drs
Zhangjiajie	0.796	1	0.796	irs
Yiyang	0.763	1	0.763	irs
Chengzhou	1	1	1	-
Yongzhou	0.486	0.599	0.812	irs
Huaihua	0.453	0.523	0.865	irs
Loudi	0.582	0.932	0.624	irs
Xiangxi	0.144	0.601	0.24	irs
Average	0.643	0.798	0.782	

Note: “drs,” “-” and “irs” denote decreasing returns to scale, constant returns to scale, and increasing returns to scale , respectively.

4.2.1 Efficiency Analysis

1) Technical Efficiency Evaluation

Technical efficiency reflects each decision- making unit’s performance in resource allocation and utilization. As shown in Table 2, only 3 of the 14 prefecture - level cities are DEA - efficient, representing 21.43%. Changsha, Zhuzhou, and Xiangtan exhibit an average overall efficiency of 0.914, well above the provincial mean of 0.643. In contrast, the Western Hunan region, comprising Zhangjiajie, Huaihua, and Xiangxi Prefecture-averages only 0.464, with Xiangxi Prefecture as low as 0.144, underscoring pronounced spatial disparities.

2) Pure Technical Efficiency Evaluation

Pure technical efficiency measures the level of input - output utilization under the assumption of constant returns to scale. The province's average pure technical efficiency is 0.798, higher than its overall efficiency, indicating that most cities retain room for improvement in technology and management. Specifically, Changde, Zhangjiajie, and Yiyang each score 1.000, demonstrating near - optimal performance in technical management, resource allocation, and institutional setup; their weaknesses lie primarily in scale. Conversely, Shaoyang (0.528), Huaihua (0.523), and Hengyang (0.553) show relatively low pure technical efficiency, suggesting the need to strengthen R&D, managerial innovation, and talent development.

3) Scale Efficiency Evaluation

Scale efficiency gauges how closely each city's actual operating scale aligns with its optimal scale given existing technology. The provincial average scale efficiency is 0.782, slightly above overall efficiency yet below pure technical efficiency. Changsha, Xiangtan, and Chenzhou reach a scale efficiency of 1.000, indicating an optimal match between production scale and technology level. Yueyang (0.875), Zhuzhou (0.864), and Huaihua (0.865) perform well but have not yet achieved the optimum. Xiangxi Prefecture (0.240) and Loudi (0.624) display low scale efficiency, highlighting the need to reassess industrial layout and investment intensity to avoid blind expansion or resource dispersion.

4) Returns to Scale Analysis

Returns to scale describe the proportional relationship between input and output changes under constant technology. Changsha, Xiangtan, and Chenzhou exhibit constant returns to scale, indicating that further efficiency gains can be sought through technological and managerial innovation. Most other cities, Zhuzhou, Hengyang, Shaoyang, Zhangjiajie, Yiyang, etc.-are in a stage of increasing returns to scale, implying that expanding production scale or enhancing agglomeration effects could yield higher efficiency. Changde, however, shows decreasing returns to scale: pure technical efficiency is already 1.000 while scale efficiency is only 0.833. This suggests that Changde may have exceeded its optimal input level and should shift from "quantity expansion" to "quality optimization", leveraging resource integration and industrial upgrading to unlock potential productivity gains.

4.2.2 Projection Analysis

By projecting the eight non - DEA - efficient cities onto the efficiency frontier, we find significant input redundancies and output shortfalls that call for a tiered optimization strategy. Hengyang exhibits the most pronounced excess inputs, 10,537.685 km of classified highways and 8,100 staff in transportation, warehousing, and postal services-while Shaoyang and Huaihua must respectively trim ¥137.462 billion and ¥212.292 billion in transport fixed - asset investment. On the output side, Xiangxi Prefecture suffers the largest freight turnover deficit (211.412 million ton - km), and Zhuzhou (18.827 million tons), Hengyang (47.308 million tons), and three other cities show clear potential to boost road freight volume. By contrast, Loudi's minimal redundancy (¥7.448 billion) highlights a resource - efficient model worth emulating, and Yongzhou and Yueyang already operate near the DEA frontier. We therefore recommend first addressing Xiangxi's structural transport bottlenecks, then precisely reducing redundant inputs and filling output gaps in Hengyang, Shaoyang, and similar cities, and finally disseminating Loudi's intensive management practices through localized resource reorganization and targeted allocation to enhance coordinated logistics efficiency across Hunan Province.

Table 3 Slack Values of Logistics Input–Output for Non-efficient Municipalities/ Prefectures in Hunan Province, 2022

DMU	Input Redundancy			Output Shortfall	
	S1 (Per Kilometers)	S2–(Per 10,000 Persons)	S3–(Per 100 Million Yuan)	S2+(10,000 Tons)	S3+ (10,000 Ton- Kilometers)
Zhuzhou	1915.96	0.11	1170.124	18827.374	0
Hengyan g	10537.685	0.81	811.33	47307.5	0
Shaoyan g	10068.28	0.439	1374.622	16311.343	0
Yueyang	8723.512	0.729	763.321	31379.038	0
Yongzho u	8963.004	0.309	1112.119	5982.068	0
Huaihua	9897.93	0.391	2122.919	6967.448	0
Loudi	4695.87	0.182	74.484	42779.346	0
Xiangxi	5189.325	0.167	2881.763	9149.596	211411.764

4.2.3 Analysis of Factors Affecting Efficiency

In order to ensure that the selected input and output indicators are both scientifically sound and reasonable, we next measure each indicator’s impact on DEA efficiency by computing the average efficiency under different indicator - omission schemes. For simplicity, we consider only five schemes, each omitting exactly one input or output indicator, as shown in Table 4.

Table 4 Average DEA Efficiency of 14 Municipalities/Prefectures in Hunan Province under Various Input–Output Indicator Sets (2022)

Indicator Type	Scheme	Input–Output Indicator Set	TE	PTE	SE
Input Indicators	1	X2, X3, Y1, Y2	0.605	0.771	0.759
	2	X1, X3, Y1, Y2	0.435	0.651	0.600
	3	X1, X2, Y1, Y2	0.643	0.752	0.834
Output Indicators	4	X1, X2, X3, Y2	0.613	0.798	0.752
	5	X1, X2, X3, Y1	0.229	0.669	0.331

After calculating the mean DEA efficiency for Hunan’s 14 prefectures under each scheme, a lower mean indicates that the omitted indicator has a greater effect on logistics efficiency. Among the three schemes omitting an input, Scheme 2 produces the lowest average efficiency, which implies that the number of employees in transportation, warehousing, and postal services has the greatest impact among inputs. Of the two schemes omitting an output, Scheme 5’s mean efficiency is noticeably lower than Scheme 4’s, indicating that freight turnover is the most influential output indicator. To present these effects more intuitively, further mathematical processing is required. Let D denote the full set of input–output indicators, D^k the set after removing the k -th indicator, and $V(D)$

and $V(D^k)$ the average DEA efficiencies of D and D^k , respectively. The influence of indicator k on DEA efficiency is then calculated as:

$$W^k = \frac{V(D) - V(D^k)}{V(D^k)}, k=1,2,\dots,5$$

The resulting value directly reflects the ratio of the change in the average DEA efficiency when the indicator is removed. A larger value indicates that the removal of that indicator has a greater impact on DEA efficiency, signifying a more important indicator; conversely, a smaller value suggests a lesser impact. The calculated values are presented in Table 5.

Table 5 Impact Degree of Each Indicator on DEA Efficiency

Indicator Type	Indicator Name	Variable	Impact Level
Input Indicators	Mileage of graded highways	X1	0.063
	Employment numbers in transportation, warehousing, and postal sectors	X2	0.478
	Transportation expenditure	X3	0.002
Output Indicators	Highway freight volume	Y2	0.049
	Freight turnover	Y3	1.808

From the input side, the number of employees in transportation, warehousing, and postal services exerts the most significant impact on DEA efficiency, followed by the length of classified highways, while transport fixed-asset investment has a relatively smaller effect. From the output side, freight turnover is by far the most influential indicator on DEA efficiency, considerably more so than road freight volume.

4.3 Summary of the Results

The DEA model results reveal significant regional disparities in logistics efficiency across Hunan Province's 14 prefecture-level cities in 2022. The average technical efficiency (TE) of 0.643 indicates that most cities have not reached optimal resource utilization. Only three cities, Changsha, Xiangtan, and Chenzhou, are DEA efficient, reflecting strong industrial bases, infrastructure, and digitalization in the central region. The Changsha–Zhuzhou–Xiangtan cluster demonstrates clear agglomeration advantages, while western Hunan (Zhangjiajie, Huaihua, Xiangxi) performs weakest, with Xiangxi scoring only 0.144, showing inadequate logistics infrastructure and technology. The average pure technical efficiency (PTE) of 0.798 suggests relatively strong management and technology levels, though improvement is needed. Changde, Zhangjiajie, and Yiyang achieved a PTE of 1.000, indicating efficient internal operations despite smaller scales, while Shaoyang, Huaihua, and Hengyang show weaknesses in management and human capital. The average scale efficiency (SE) of 0.782 indicates suboptimal operating scales. Changsha, Xiangtan, and Chenzhou maintain balanced capacity and technology, whereas Xiangxi and Loudi require better industrial coordination. The returns-to-scale (RTS) results show most cities, including Zhuzhou, Hengyang, and Yiyang, are in the stage of increasing returns to scale, while Changde shows decreasing returns, suggesting over-expansion. Projection analysis reveals input redundancies in Hengyang and Huaihua and output deficiencies in Xiangxi, while Loudi maintains a balanced structure. Factor analysis identifies the number of logistics employees and freight turnover as key determinants of efficiency, emphasizing the role of human resources and logistics throughput. Overall, logistics efficiency in

Hunan remains imbalanced, with strong central-region performance and lagging development in the west. Enhancing technology adoption, scale optimization, and talent development is crucial for achieving balanced and sustainable logistics growth.

5. Conclusion, Discussion, and Recommendation

5.1 Conclusion

This study constructs a DEA-based input–output efficiency evaluation system for Hunan’s logistics industry at the prefecture level. The empirical results indicate that only three of the fourteen cities achieve DEA efficiency, highlighting an overall imbalance in logistics performance across the province. The Changsha–Zhuzhou–Xiangtan region demonstrates notably higher efficiency levels, corresponding with its robust economic foundation and advanced infrastructure. In contrast, Yueyang and Huaihua display relatively balanced input–output structures but face inefficiencies due to suboptimal resource allocation. Yiyang and Loudi effectively apply technology but operate at smaller scales, suggesting a need for greater resource investment. Meanwhile, Western Hunan significantly lags behind in logistics efficiency, constrained by weak infrastructure and limited technological adoption. Factor analysis further identifies the number of employees in transportation, warehousing, and postal services, as well as freight turnover, as the most influential determinants of efficiency. These findings refine the indicator system and provide valuable insights for future model optimization and policy formulation.

5.2 Discussion

The findings reveal a clear spatial disparity in logistics efficiency across Hunan Province, reflecting the uneven distribution of economic development and industrial structure. The superior performance of the Changsha–Zhuzhou–Xiangtan region underscores the importance of economic agglomeration effects, advanced infrastructure, and digital transformation in improving logistics efficiency. Cities with balanced input–output ratios but low efficiency, such as Yueyang and Huaihua, illustrate that resource sufficiency alone does not guarantee high performance, effective allocation and utilization are equally crucial. The relatively efficient use of technology in smaller cities like Yiyang and Loudi shows that technological adoption can partially offset scale limitations but cannot fully compensate for insufficient investment or weak networks. The underperformance of Western Hunan highlights the challenges faced by less-developed areas, where infrastructural deficits, talent shortages, and limited innovation capacity hinder efficiency gains. These disparities emphasize that logistics efficiency is not only a function of resource quantity but also of regional coordination, policy support, and digital readiness.

5.3 Recommendation

1) Strengthen regional cooperation for joint development.

The pronounced efficiency gap between the Changsha–Zhuzhou–Xiangtan region and Western Hunan calls for integrated regional development. Establish mechanisms for resource complementarity and cross-regional infrastructure connectivity. By leveraging the economic pull of the Changsha–Zhuzhou–Xiangtan cluster, provincial logistics hubs can be developed, standardized collaboration promoted, and a unified information platform established to enhance resource sharing and system integration.

2) Accelerate logistics technology adoption and foster innovation.

Promote the deployment of smart-logistics technologies, including big-data-driven route optimization and intelligent dispatch systems, particularly in under-resourced cities. In Western Hunan, major infrastructure investments should be accompanied by digital solutions to overcome scale constraints, improve freight turnover, and enhance operational efficiency.

3) Develop a talent cultivation system and attract skilled personnel.

Encourage collaboration between logistics-oriented universities and enterprises to nurture interdisciplinary professionals in smart logistics and supply-chain management. Implement digital-skills training for operational staff to strengthen technical proficiency, and optimize compensation, career development, and incentive mechanisms to attract and retain high-caliber talent, ensuring sustainable and innovation-driven logistics growth.

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Sripatum University, Thailand

Sripatum University is one of the oldest and most prestigious private universities in Bangkok, Thailand. Dr. Sook Pookayaporn established the university in 1970 under the name of "Thai Suriya College" in order to create opportunities for Thai youths to develop their potential. In 1987, the college was promoted to university status by the Ministry of University Affairs, and has since been known as Sripatum University. "Sripatum" means the "Source of Knowledge Blooming Like a Lotus" and was graciously conferred on the college by Her Royal Highness, the late Princess Mother Srinagarindra (Somdet Phra Srinagarindra Baromarajajan). She presided over the official opening ceremony of SPU and awarded vocational certificates to the first three graduating classes. Sripatum University is therefore one of the first five private universities of Thailand. The university's main goal is to create well-rounded students who can develop themselves to their chosen fields of study and to instill students with correct attitudes towards education so that they are enthusiastic in their pursuit of knowledge and self-development. This will provide students with a firm foundation for the future after graduation. The university's philosophy is "Education develops human resources who enrich the nation" which focuses on characteristics of Wisdom, Skills, Cheerfulness and Morality.

University of Greenwich, United Kingdom

The University of Greenwich is a British university with campuses in south-east London and north Kent. These include the Greenwich Campus, located in the grounds of the Old Royal Naval College in the Royal Borough of Greenwich, London, England. It is the largest university in London by student numbers and the greenest in the UK as assessed by The People & Planet Green League. The university's wide range of subjects includes architecture, business, computing, education, engineering, humanities, natural sciences, pharmacy and social sciences. It has a strong research focus and well-established links to the scientific community.

Lincoln University, New Zealand

Lincoln is New Zealand's third oldest university. Founded in 1878 as a School of Agriculture, the organisation was linked to Canterbury College, welcoming its first intake of students in 1880. In 1896, with agriculture now well established as the mainstay of New Zealand's exports, the School of Agriculture separated from Canterbury College and became Canterbury Agricultural College, with its own governing body and the ability to award degrees through the University of New Zealand. In 1961, the university was officially renamed Lincoln College, becoming a constituent college of the University of Canterbury. In 1990 Lincoln University formally separated from the University of Canterbury and became the self-governing national university that it is today. Internationally Lincoln University has academic alliances with complementary institutions in Asia, the Middle East, Europe and the Americas. These alliances support academic relationships and enhance educational opportunities for teaching staff, students and those undertaking advanced research.



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