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Green Finance and Green Innovation Output in Chinese Manufacturing Enterprises: Evidence from A-share Listed Firms, 2010-2024

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Abstract

Purpose – This paper examines the impact of green finance on green innovation output in Chinese manufacturing firms. It also explores the mechanisms, firm-level differences, and moderating factors in this relationship.

Design/Methodology/Approach – The study uses panel data from Chinese A-share listed manufacturing firms between 2010 and 2024. It applies fixed-effects models, instrumental-variable estimation, robustness tests, and mechanism, heterogeneity, and moderation analyses.

Findings – Green finance significantly promotes corporate green innovation by increasing R&D investment, environmental pressure, and green transformation. The effect is stronger in highly competitive, growing or declining, and digitally advanced firms, and is reinforced by ESG performance and collaborative green patents.

Research Implications – Policymakers should improve green finance systems and provide more targeted support across regions and firms. Financial institutions should also consider ESG performance and collaborative innovation when allocating green financial resources.

Keywords: green finance; green innovation; manufacturing firms; R&D investment

JEL Classifications: G21, O31, Q55, G32

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I. Introduction

China's dual-carbon strategy has made the green transformation of manufacturing a core part of high-quality economic development. Manufacturing is still a relatively high-energy-consumption and carbon-emitting industry, but at the same time, new technologies can be introduced to reduce both environmental pollution and energy waste significantly. Green technological innovation is relatively costly and uncertain, but has positive externalities. In the past, financial markets have been unable to raise funds for such projects because of information asymmetry among investors, a long payback period and the difficulty of monetizing environmental benefits. Therefore, green finance will direct funds towards environmentally friendly projects and away from high-polluting industries.

Research on green credit policies, green bonds, environmental regulations and corporate innovation has been conducted, but little attention has been paid to an all-encompassing green finance index and its firm-level effects in manufacturing(Qian Liu, Yuanji Zhang, Xiaoqing Sun, 2025). his paper addresses three questions.First, has the development of green finance promoted green innovation by manufacturing enterprises? Second, through which mechanisms does it work? Third, in what firm and market conditions is the effect more pronounced? Using city-level green finance indicators and firm-level panel data, this paper provides empirical support for investigating the effect of greening in the financial system on corporate innovation.

II. Theoretical background

The theoretical basis for the above analysis is the theory of sustainable development, signalling theory, Porter's hypothesis and externality theory. Sustainable development theory believes that financial resources should support growth that is in line with resource conservation and pollution reduction. Based on signalling theory, green innovation and ESG performance reduce information asymmetry by providing high-quality information for financial institutions and investors over an extended period. According to Porter's theory, a favourable environment will reduce the cost of conforming to some extent and thus promote innovation. According to the theory of externalities, public policies and green finance are required to internalise the social costs of environmental pollution from green innovation(Liu, Q., Guo, Q., & Umair, M., 2026).

Green Finance can promote green innovation in the following ways. First, it will ease financing pressure and reduce the cost of capital for green R&D. Secondly, regulators and the market will likely raise the company's risk awareness through relevant regulations or information disclosures(Qian Liu, 2025). Thirdly, it promotes the green transformation of the company by incorporating green concepts into strategy, production and disclosure. The effect may vary across firms. Firms in more competitive markets need to raise funds for technological upgrading more urgently. Firms at different stages in their life cycles also have different risk appetites and resource allocations. Digitalisation can enhance the efficiency of information processing and production

optimisation to provide support for the green-tech upgrading effort.

III. Data, variables and model

The sample is Chinese A-share listed manufacturing enterprises from 2010 to 2024. Green patent data are obtained from the CNRDS green patent database; financial and governance variables are taken from CSMAR and Wind; city-level green finance indicators are calculated based on statistical yearbooks; ESG ratings are provided by the Huazheng ESG database; and annual report text data are obtained from CNRDS. After matching and cleaning, the main fixed-effects regressions use as many as 38,797 firm-year observations, and the exact sample varies among specifications due to missing mechanisms, ESG and patent-collaboration variables.

The dependent variable is green innovation output (GI), and it is represented by $\ln(\text{green invention patent applications} + \text{green utility model patent applications} + 1)$. The core independent variable is the green finance development index (GF). A fixed-base range entropy-weight method is used to build the index, and year-to-year changes in weight are thus avoided for better intertemporal comparison. Control variables are firm size, capital expenditure, board size, institutional ownership, executive compensation, CEO-chairman duality and ownership concentration. The baseline model is: $GI_{it} = \alpha + \beta GF_{ct} + \gamma \text{Controls}_{it} + \text{Firm}_i + \text{Year}_t + \text{Industry}_j + \epsilon_{it}$, where i denotes firm, c city, t year and j industry. A positive and significant β indicates that the development of green finance is positively associated with the output of green innovation.

Table 1. Green Finance Development Index

Dimension	Indicator	Measurement	Direction
Green credit	Environmental project loans	Environmental project loans / total loans	Positive
Green credit	Loans to six high-energy-consuming industries	Loans to six high-energy-consuming industries / total loans	Negative
Green insurance	Environmental pollution liability insurance	Environmental liability insurance income / total premium income	Positive
Green bonds	Green bond issuance	Green bond issuance / total bond issuance	Positive
Green funds	Green fund market value	Green fund market value / total fund market value	Positive
Green securities	Market value of environmental firms	Environmental firms' market value / A-share market value	Positive
Green securities	Market value of six high-energy-consuming industries	Market value of six high-energy-consuming industries / A-share market value	Negative

Source: Condensed from the original empirical paper. The city-level index is computed according to the fixed-base range entropy-weight method.

Table 2. Descriptive Statistics

Variable	Symbol	Mean	SD	Min	Max
Green innovation output	GI	0.741	1.052	0.000	4.779
Green finance development	GF	0.134	0.029	0.032	0.219
Firm size	Size	22.196	1.345	14.942	28.791
Capital expenditure	Capex	0.046	0.050	-0.475	0.642
Board size	Board	2.110	0.202	1.386	2.890
Institutional ownership	Inst	0.429	0.251	0.000	1.011
Top management pay	TMTPay1	14.664	0.799	0.000	18.292
CEO-chairman duality	Dual	0.309	0.462	0.000	1.000
Ownership concentration	Top1	0.338	0.151	0.011	0.900

The mean VIF is 1.27; Indicating that multicollinearity is not a serious concern

IV. Empirical results

Based on the above data, both green finance and green innovation increased from 2010 to 2024, but at different rates in different areas. Green finance development improved in all four areas, the eastern area was the highest, the central area increased at a faster pace, and the western and northeastern areas performed poorly. Dagum Gini decomposition shows that the overall regional inequality has decreased from 0.259 in 2010 to 0.199 in 2024; however, the density of transvariation remains a primary cause of this reduction. Green innovation output also increased over time, and this increase had a bimodal distribution: most firms remained in the low-output group, and only a small number formed the high-output group.

Table 3 is the baseline result. GF is a positive predictor in the pooled model without fixed effects. Add the fixed effects of firm, year and industry, and then the coefficient is positive and significant. In the preferred specification with controls and fixed effects, the coefficient of GF is 0.909 and statistically significant at the 1% level. Therefore, green finance development is expected to promote an increase in green innovation outputs for manufacturing enterprises.

Table 3. Baseline Regression Results

Variable	(1) GI	(2) GI	(3) GI
GF	4.405*** (0.167)	1.057*** (0.370)	0.909*** (0.347)
Controls	YES	NO	YES
Firm fixed effects	NO	YES	YES
Year fixed effects	NO	YES	YES
Industry fixed effects	NO	YES	YES
N	39,105	39,924	38,797
R2	0.219	0.707	0.719

Standard errors are shown in parentheses; * denotes 10% significance, ** denotes 5% significance, and *** denotes 1% significance.

Lagged green finance (LGF) is employed as the instrument for endogeneity correction. The first-stage coefficient is 0.687 and is significant at the 1% level; the Kleibergen-Paap LM statistic rejects under-identification, and the Wald F statistic exceeds the weak-instrument threshold. In the second stage, the coefficient of GF is 1.704 and is still significant at the 1% level. Robustness tests also support this result when replacing the dependent variable, adjusting the sample period, adding province fixed effects, and using a reduced sample.

Table 4. Endogeneity and Robustness Tests

Panel / Variable	IV first stage GF	IV second stage GI	Robust 1 GI1	Robust 2 GI	Robust 3 GI	Robust 4 GI
LGF	0.687*** (0.009)					
GF		1.704*** (0.615)	0.835*** (0.321)	1.097*** (0.355)	0.782** (0.343)	1.087** (0.474)
Controls	YES	YES	YES	YES	YES	YES
Firm, year, industry FE	YES	YES	YES	YES	YES	YES
Province FE	NO	NO	NO	NO	YES	NO
N	34,237	34,237	38,797	29,856	38,797	20,724
R2	0.929	0.046	0.672	0.694	0.721	0.705

The IV model uses lagged green finance. KP rk LM = 679.393, p = 0.0000; KP rk Wald F = 5986.884.

Mechanism tests examine the three mediation paths influenced by green finance. As shown in Table 5, GF has raised the intensity of R&D investment, environmental regulatory pressure and corporate green transformation. The coefficients are 0.566, 4.780 and 0.622. Based on the above analysis, green finance appears to be a transmission channel that reduces financing constraints for environmentally friendly projects, increases external pressure on enterprises, and thus drives green innovation.

Table 5. Mechanism Tests

Variable	R&D investment intensity	Environmental regulation pressure	Corporate green transformation
GF	0.566*** (0.216)	4.780*** (1.835)	0.622** (0.317)
Controls	YES	YES	YES
Firm fixed effects	YES	YES	YES
Year fixed effects	YES	YES	YES
Industry fixed effects	YES	YES	YES
N	36,898	6,904	38,795
R2	0.751	0.425	0.691

The corporate green transformation variable is based on text analysis of 113 green transformation keywords in the annual report.

The results of heterogeneity in Table 6 show that green finance is not uniformly effective for all enterprises. The effect is significant in high-competition industries but insignificant in low-competition industries. It is also significant for firms in the growth and decline stages, but not for mature firms. In addition, the effect is concentrated among firms with higher digital transformation. Based on the above results, it can be inferred that financial support is more likely to be employed for green innovation by enterprises under significant market pressure, strategic renovation requirements or enhanced use of external resources through digitalisation.

Table 6. Heterogeneity Analysis

Group	High competition	Low competition	Growth stage	Mature stage	Decline stage	High digitalization	Low digitalization
GF	1.027** (0.493)	0.680 (0.462)	1.149** (0.571)	0.674 (0.486)	1.172* (0.685)	1.037*** (0.385)	0.485 (0.564)
Controls and FE	YES	YES	YES	YES	YES	YES	YES
N	19,166	19,144	13,375	16,081	6,759	27,102	10,875
R2	0.742	0.730	0.745	0.714	0.713	0.700	0.793

All specifications include controls, firm fixed effects, year fixed effects and industry fixed effects.

Moderation analysis shows that ESG ratings and green collaborative invention patents strengthen the effect of green finance. As shown in Table 7, the interaction term of GF and ESG is 0.581 and statistically significant at the 1% level. Therefore, at companies with high ESG performance will be able to raise green finance more easily due to higher disclosure quality, governance capacity and market confidence. The interaction term of GF and green collaborative invention patents is 2.303. It is also statistically significant at the 1% level. Collaborative green invention refers to the sharing of knowledge and resources among organisations to expand the innovative effect of green finance.

Table 7. Moderating Effects of ESG and Green Collaborative Invention Patents

Variable	ESG model (1)	ESG model (2)	ESG model (3)	Patent model (1)	Patent model (2)	Patent model (3)
GF	0.909*** (0.347)	0.861** (0.349)	0.914*** (0.349)	0.909*** (0.347)	0.845** (0.334)	1.398*** (0.356)
ESG		0.033***	0.031***			
lnG					0.338***	0.329***
GF x ESG			0.581***			
GF x lnG						2.303***
Controls and FE	YES	YES	YES	YES	YES	YES
N	4,125	4,123	4,123	38,797	38,797	38,797
R2	0.719	0.721	0.721	0.719	0.730	0.731

ESG ratings range from 1 to 9, and lnG is defined as the natural logarithm of green collaborative invention patent applications plus 1.

V. Discussion and policy implications

Based on the above results, green finance should be regarded as a form of governance and signal, rather than merely a way of financing. Provide funds for green projects to reduce the cost of environmentally friendly research and development and increase the expected return on investment in green innovation via green finance. Environmental performance in lending and investment decisions will also increase the perceived regulatory risk for the company and drive green transformation from within.

The three are the following policies. First, the regulator should continue to promote the development of green finance for industrial upgrading and strengthen standards for green credit, bonds, insurance, funds and securities. Second, the regional policies are not uniform. The eastern Area will focus on high-quality green financial products and innovation-driven upgrading; the central, western and northeastern Areas need stronger institutional capacity, information infrastructure and project pipelines. Thirdly, the financial institution can add ESG disclosure and cooperative innovation indicators to the green finance evaluation system. Companies with good ESG governance and cooperative patent activities will be better able to achieve the goals of green innovation supported by the funds. Therefore, according to the above results, the company needs to obtain

green funds first. The company needs good self-transformation capabilities, will invest in R&D, adopt digital tools and build organisational routines to implement the green transformation strategy in production. Otherwise, green finance will only support superficial compliance without technological innovation.

VI. Conclusion

Data in this paper show that the development of green finance has increased the output of green innovation for Chinese manufacturing enterprises. After controlling for firm, year and industry fixed effects, the results are still stable; instrument-variable estimation and multiple robustness tests have also been carried out. Mechanism experiments have shown that this is achieved by an increase in high-intensity R&D investment, stricter environmental regulations, and corporate green transformation. Analysis of heterogeneity shows that the effect is relatively larger for firms in highly competitive industries, those that are growing or declining, and digitally advanced firms. ESG ratings and green collaborative invention patents have added to this extent.

The study adds to the body of research by connecting a multi-dimensional green finance index with firm-level green patent output in manufacturing. The quantity of patents may not fully reflect the quality of green innovation. In the future, research may add patent citations, commercialisation results, carbon reduction performance and cross-country comparisons to determine whether green finance promotes deep technological change or only an increase in patent applications.

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Fund Holding Concentration and Liquidity Constraints of Small-Cap Stocks in a Market Crisis. Evidence from China's A-Share Market in Early 2024

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Abstract

Purpose – This paper examines whether mutual fund holding concentration increases liquidity constraints among Chinese small-cap stocks during market stress. It also distinguishes concentration from total fund ownership and fund coverage.

Design/Methodology/Approach – The study uses data on 1,434 fund-covered Chinese small-cap stocks from August 2023 to June 2024. It applies stock and date fixed-effects models, decomposition tests, placebo analyses, and multiple robustness checks.

Findings – Higher fund holding concentration is associated with a greater probability of low-turnover limit-down locks, while total fund ownership and fund coverage show no similar positive effect. The relationship is mainly driven by the largest single fund holder.

Research Implications – Regulators and investors should monitor the distribution of institutional holdings, not only the overall ownership level. Stocks dominated by one or a few funds may face greater liquidity risk during market stress.

Keywords: fund holding concentration; small-cap stocks; price limits; liquidity constraints

JEL Classifications: G12, G23, G14

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I. Introduction

In early 2024, Chinese small- and micro-cap stocks fell as a group. A characteristic of this time is that some stocks have not fallen sharply; instead, they have reached a lower price bound for that day and the trading volume has not risen sharply in a sell-off. The above state is not an ordinary decline because it has a fixed-price constraint and low turnover. Investors are unable to sell their shares at the original time because of a price drop. Identifying the pre-existing ownership structure of this state is thus relevant to the study of liquidity risk in markets with daily price limits.

Public mutual funds have gradually become necessary for China's A-share market. With institutional collection and monitoring of information by the market, it will be more efficient, and thus the risks of general incentives and redemptions and correlated trading will be reduced. Related evidence from emerging economies shows that financial development and the conditions for energy transition jointly determine environmental sustainability (Liu, Xiang, Yang, & ul Haq, 2025), and oil-price fluctuations contain predictive information for equity returns under economic constraints (Liu, Guo, & Umair, 2026). Therefore, the effect of institutional ownership will vary depending on how much it is and how dispersed among various investors.

This division serves as the foundation for the current study. A large proportion of shares held by funds does not necessarily indicate a concentrated fund-holder structure. A stock may be widely held by many funds, or the combined fund share of these large holders may be concentrated in one or a few institutions. In a time of market stress, the latter structure will be more sensitive to portfolio adjustments by a small number of institutions. In a market with a daily price cap, concentrated selling pressure may be shown in a lower return and an inability to trade at the lower bound.

We take the early-2024 small-cap stress episode as the empirical case and investigate whether pre-crisis fund holding concentration explains the cross-sectional variation in low-turnover limit-down locks. Fund HHI is based on full mutual fund portfolio disclosures as of June 30, 2023. The dependent variable is an indicator equal to one when a stock closes at the lower price limit and turnover falls below a stock-specific pre-crisis benchmark. This measure is intended to capture constrained trading rather than a simple price decline. The construction is to capture a restricted trading condition rather than a drop in price.

Based on the above baseline results, more concentrated fund ownership is associated with a higher probability of a LimitLock during a stress period, even after controlling for total fund ownership, the number of held funds, pre-crisis stock characteristics, lagged daily trading conditions, stock fixed effects and date fixed effects. Total fund ownership and fund coverage are not positively correlated with the outcome, respectively. Therefore, the distribution of institutional positions may matter more than institutional participation itself.

Research on crowded institutional positions has been extended in this paper to downside liquidity constraints, and ownership level, coverage breadth and concentration have been separated. As the data do not contain direct fund flows or trades, the results are limited to fund-covered small-cap stocks and interpreted as conditional associations.

II. Literature Review and Hypotheses

Scholarly works have not reached a uniform conclusion on institutional investors and market stability. Gompers and Metrick (2001) have shown that institutions impact equity prices. Coval and Stafford (2007) found that the common shares sold by the fund in an outflow caused a substantial decline in price. Greenwood and Thesmar (2011) have reduced the scope of general institutional ownership and now believe that stocks with concentrated shareholders or those exposed to correlated liquidity shocks are more susceptible to greening risks. Together, these studies suggest that the distribution of fund holdings across stocks may shape their vulnerability during periods of market stress.

Research also distinguishes herding, crowded trading and ownership fragility. Dasgupta, Prat and Verardo (2011) linked reputational incentives to institutional herding and subsequent reversal, and Chinese evidence connected crowded institutional positions to price bubbles. Configurational evidence further shows that digital innovation ecosystems can promote green technological innovation at the regional level through a combination of supporting conditions (Liu, Zhang & Sun, 2025). Measures based on the number of funds holding a stock reflect the breadth of coverage by funds rather than the concentration of certain holders.

Daily Price Limits can convert holder shocks into visible trading restrictions. Previous research has found delayed price discovery, volatility spillovers, and a 'magnet effect', and other scholars believe that limits restrict information processing and curb manipulation. The effect will differ based on the market conditions, a narrow scope, and investors.

Research on liquidity has also shown that in a recession, market and funding liquidity are related. Brunnermeier and Pedersen (2009) have proposed that in a liquidity spiral, declining market liquidity and reduced funding have become mutually reinforcing. Hameed, Kang and Viswanathan (2010) have determined that the market decline lowers stock liquidity under a constrained-funding assumption. Cespa and Foucault (2014) have shown that feedback among informational efficiency and liquidity can spread local shocks throughout liquidity. The above studies have employed a price boundary and insufficient trading release to measure stress.

Based on the above, we propose:

H1. Pre-crisis fund holding concentration is positively associated with the probability that a small-cap stock will experience a low-turnover limit-down lock during market stress.

H2a. After controlling for total fund ownership and the number of holding funds, the association is still positive.

H2b. If the concentration effect is mainly caused by a single dominant shareholder, then the share of the largest single fund will have a stronger explanatory power than the combined share of the top five funds.

III. Data, Variables, and Empirical Design

3.1 Data and sample

Holdings of mutual funds, daily stock trading, accounting variables and industry classifications are obtained from the CSMAR database. The Estimation Window is from August 1, 2023, to June 28, 2024. The primary stress indicator, Crisis, is 1 from January 1, 2024, to June 28, 2024, and 0 otherwise. This relatively wide window includes the initial drop in pressure, the peak of limit-down locks, and the following normalisation of trading. A smaller January-February window is selected for the robustness test.

Fund variables are based on the complete semi-annual portfolio disclosures as of 30 June 2023, and ownership structure has been measured prior to the stress event. Accounting controls use the most recent available reporting period no later than that date, and if firm-size data are only available annually, the 31 December 2022 observation is used. Industry classification is as of December 31, 2023, and only enters through industry-by-crisis interactions.

Small-cap stocks refer to the bottom 30% of free-float market capitalisation on the first day of trading before the financial crisis, which is usually August 1, 2023. Suspended stocks use their first available observation in the window. Zero-fund-ownership stocks are excluded because FundHHI is undefined. Pre-crisis ST stocks and the remaining ST trading days are also excluded. The final sample includes 1,434 stocks and 313,145 stock-day observations, so the inference is limited to fund-covered small-cap A-shares.

3.2 Variable construction

DownLimit is an approximate indicator that is 1 if the stock closes at the lower bound of the previous day. The thresholds for the cleaning stage of the data are as follows: 10% for non-ST main-board stocks, 20% for ChiNext and STAR Market stocks, 30% for Beijing Stock Exchange stocks, and 5% for ST stocks. A tolerance of 0.005 is allowed for rounding, adjusted returns and recording errors. As the daily database does not separately identify each ex-dividend or ex-rights event, DownLimit should be regarded as an approximation based on CSMAR's adjusted price-change field.

LimitLock is the main dependent variable, and it takes the value 1 if DownLimit is 1 and the stock's daily turnover is lower than the median turnover in the period from August 1 to December 31, 2023. Otherwise, it is 0. Set a turnover ceiling prior to the stress period to prevent an artificial increase in trading intensity in the results. LimitLock is not an order-book indicator of a fully closed limit-down queue; it is a daily proxy that jointly reflects a binding price limit and weak transaction release.

For stock i , let FundValue_{ij} be the market value held by fund j on 30 June 2023, and let w_{ij} be that position divided by the total value of all funds in stock i . FundHHI_i is the sum of the squared fund weights:

$$\text{FundHHI}_i = \sum_j w_{ij}^2.$$

A higher value indicates that the stock's fund share is concentrated in a few large funds. FundHHI is

normalised in the regressions. FundOwnership is the total mutual fund holdings divided by the free-float market capitalisation. LogNumFunds is the standardised logarithm of the number of funds holding the stock. Top1FundShare is the largest fund's share of aggregate fund holdings, and Top5FundShare is the combined share of the top five funds.

The pre-crisis stock controls are free-float market capitalization, return volatility and cumulative return. Daily controls are lag-free floating capitalisation, turnover, illiquidity and absolute return. The daily trading controls may be through which stress affects LimitLock and are therefore 'bad controls'. We consequently report a specification that excludes all daily controls.

Table 1. Variable Construction and Descriptive Statistics

Variable	Period	Mean/rate	SD	P25	Median	P75
DownLimit	Pre-crisis	0.178%	-	-	-	-
DownLimit	Crisis	1.129%	-	-	-	-
LimitLock	Pre-crisis	0.0068%	-	-	-	-
LimitLock	Crisis	0.1246%	-	-	-	-
FundHHI	30 Jun 2023	0.297	0.247	0.120	0.226	0.393
FundOwnership	30 Jun 2023	0.052	0.088	0.0048	0.014	0.055
LogNumFunds	30 Jun 2023	3.261	1.507	2.303	3.045	4.094
NumFunds	30 Jun 2023	124.501	363.065	9	20	59
Top1FundShare	30 Jun 2023	0.412	0.250	0.225	0.370	0.542
Top5FundShare	30 Jun 2023	0.775	0.253	0.656	0.867	0.980

Pre-crisis period: August 1 - December 31, 2023; Crisis: January 1 - June 28, 2024. The main sample has 1,434 stocks and 313,145 stock-day observations. FundHHI and LogNumFunds are negatively correlated at -0.675. Data Source: CSMAR.

3.3 Empirical model

The first is a two-way fixed-effects linear probability model:

$$\text{LimitLock}_{it} \times 100 = \beta_1(\text{FundHHI}_i \times \text{Crisis}_t) + \beta_2(\text{FundOwnership}_i \times \text{Crisis}_t) + \beta_3(\text{LogNumFunds}_i \times \text{Crisis}_t) + \gamma'(X_i \times \text{Crisis}_t) + \delta'Z_{i,t-1} + \mu_i + \lambda_t + \varepsilon_{it}.$$

Here, X_i is the pre-crisis stock characteristics, $Z_{i,t-1}$ is the lagged daily controls, μ_i represents stock fixed effects, and λ_t denotes date fixed effects. The two-way clustered standard errors are shown below. Stock fixed effects control for time-invariant firm differences, and date fixed effects address market-wide shocks. FundHHI

is time-invariant within the sample window, so its level can be ignored; identification is achieved by using the change in stocks with different pre-crisis concentrations during the stress period.

The coefficient β_1 is in percentage points because the dependent variable has been multiplied by 100. The Design estimates a conditional stress-period association and does not show that fund concentration caused the individual funds to sell.

IV. Empirical Results

4.1 Descriptive evidence

Trading Conditions Declined Sharply in Early 2024. The average DownLimit rate was 0.178% before the crisis and reached 1.129% in the crisis. LimitLock rate increased from 0.0068% to 0.1246%. Around the beginning of February, during the high-stress period, about 31.04% of small-cap stocks closed at the lower bound each day.

Sorting stocks by FundHHI shows that the cumulative returns of the highest- and lowest-concentration groups were generally similar in the peak window; the difference in terminal cumulative returns of Q5-minus-Q1 was only -2.8 percentage points. The Difference was larger in the trading state. In Q5 and Q1, the mean daily LimitLock rates were off by 0.75 per cent, and the highest rate in Q5 reached 10.14 per cent. The above descriptive patterns indicate that concentration is more closely associated with transaction constraints than with accumulated price drops.

The mean of FundHHI is 0.297 and its standard deviation is 0.247. The mean largest-fund share is 0.412 and the mean top-five share is 0.775. The median stock is held by 20 funds, and the distribution is highly skewed. FundHHI is negatively correlated with LogNumFunds (-0.675), and thus separating concentration from coverage breadth is necessary.

4.2 Baseline estimates

The base regressions support H1 and H2a. In the preferred specification, $\text{FundHHI} \times \text{Crisis} = 0.076$ (standard error 0.038; $p = 0.044$). A one-standard-deviation increase in FundHHI is associated with a 0.076 percentage-point rise in the daily LimitLock probability, or about 60.9% of the crisis-period mean.

The absolute amount of the effect is small because LimitLock is rare, but it is not negligible given the low frequency of the event. Convert the coefficient to expected event days, and a one-standard-deviation increase in FundHHI is approximately 0.089 more LimitLock days per stock during the crisis period. Moving from the 10th to the 90th percentile of FundHHI is about 0.222 additional days. Therefore, the result should be viewed as a relatively small difference in constrained trading states rather than a substantial price effect.

Fund Ownership $\times$ Crisis is negative and statistically insignificant in the main model. LogNumFunds $\times$

Crisis is close to zero and negligible. Therefore, neither the total proportion of funds nor the range of fund coverage are positively correlated with LimitLock. The positive result is shown in the distribution of holdings among funds.

After removing lagged daily capitalisation, turnover, illiquidity and absolute return, the FundHHI coefficient remains at 0.076 ($p = 0.047$). Therefore, it is not produced by the daily control mechanism. Adding firm-quality interactions reduces the coefficient to 0.060 ($p = 0.089$) and weakens precision but keeps the direction.

Table 2. Fund Holding Concentration and Low-Turnover Limit-Down Lock Risk

Variable	(1) Baseline	(2) + Coverage	(3) Preferred	(4) + Quality	(5) No daily controls
FundHHI × Crisis	0.071** (0.032)	0.060* (0.033)	0.076** (0.038)	0.060* (0.035)	0.076** (0.038)
FundOwnership × Crisis	-0.037 (0.025)	-0.033 (0.024)	-0.047 (0.030)	-0.037 (0.026)	-0.047 (0.031)
LogNumFunds × Crisis		-0.018 (0.017)	-0.007 (0.014)	-0.012 (0.023)	-0.003 (0.015)
Characteristics × Crisis	No	No	Yes	Yes	Yes
Quality × Crisis	No	No	No	Yes	No
Daily controls	Yes	Yes	Yes	Yes	No
Stock fixed effects	Yes	Yes	Yes	Yes	Yes
Date fixed effects	Yes	Yes	Yes	Yes	Yes
Observations	313,145	313,145	313,145	313,145	313,145
Stocks	1,434	1,434	1,434	1,434	1,434

Note: The dependent variable is LimitLock × 100, so coefficients and standard errors are in percentage points. Standard errors in parentheses are two-way clustered by stock and date. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

4.3 Concentration decomposition

Replacing FundHHI with Top1FundShare yields a coefficient of 0.062 ($p = 0.050$). Top5FundShare has a coefficient of -0.033 ($p = 0.082$) and therefore does not support the positive direction proposed in the hypothesis. This pattern is in line with H2b to some extent; that is, the positive FundHHI association is closer to the weight of the single largest fund than to the combined share of the five largest funds.

Top5 results are relatively unstable. In the main sample, 220 stocks (15.34%) are held by no more than

five funds; for these stocks, Top5FundShare equals 1 and has no cross-sectional variation. For these cases, Top5FundShare is 1 and there is no cross-sectional variation. Limit the sample to stocks held by more than five funds and obtain a top-5 coefficient of -0.018 ($p = 0.273$). It does not mean that the combined position of large funds is free from consequences; rather, this index has upper-bound clustering and low statistical precision.

Table 3. Decomposition of Fund Holding Concentration

Concentration proxy	Coefficient	SE	t value	p value	Observations
FundHHI $\times$ Crisis	0.076**	0.038	2.011	0.044	313,145
Top1FundShare $\times$ Crisis	0.062*	0.032	1.964	0.050	313,145
Top5FundShare $\times$ Crisis	-0.033*	0.019	-1.737	0.082	313,145

Note: Each row is estimated in a separate regression including FundOwnership $\times$ Crisis, LogNumFunds $\times$ Crisis, stock-characteristic interactions, daily controls, stock fixed effects, and date fixed effects. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$.

V. Robustness and Identification Diagnostics

Pre-crisis placebo coefficients range from -0.006 to -0.001 ($p = 0.454$ -0.798), and monthly pre-trend interactions range from -0.021 to -0.014 and are not significant. None of the tests show a significant difference before the stress period.

Giving each industry a separate Crisis effect yields a FundHHI coefficient of 0.078 ($p = 0.042$). Excluding Beijing Stock Exchange stocks, which are subject to a 30% price cap, increases the coefficient to 0.091 ($p = 0.043$). Based on the above estimates, the foundation of the result is not due to widespread industry shocks or the special price-cap regime in the Beijing Stock Exchange.

Other definitions of a low turnover result in a weaker but generally positive estimate. Using the 25th and 40th percentiles of the pre-crisis turnover as thresholds yields coefficients of 0.035 ($p = 0.133$) and 0.059 ($p = 0.079$), respectively. Using the most recent 20 pre-crisis trading days for the fixed benchmark yields 0.036 ($p = 0.337$), but using 120 days results in 0.073 ($p = 0.044$). Restricting the crisis to January and February 2024 increases the point estimate to 0.109 but reduces precision ($p = 0.124$), indicating that the larger effect is concentrated near the peak and fewer informative observations are available.

Stock-level models show that lock days (0.083, $p = 0.012$) and the lock rate (0.089, $p = 0.024$) are positively associated; Poisson and rare-event logit results are also positive. The above models are complementary to the panel model, not replacements for it.

The small-cap sorting universe has also shifted. Rank all 5,136 stocks with available pre-crisis trading

characteristics and select the bottom 30% to get 1,541 candidate stocks. After specifying FundHHI, ownership concentration, ST filters and all other regression variables, the alternative sample has 1,318 stocks and 287,949 stock-day observations. FundHHI coefficient is 0.037 ($p = 0.084$) and about half the baseline value. The corresponding reduction in the sorting universe and inference set has also occurred. Since FundHHI is conditional on fund ownership, the main approach ranks within fund-covered stocks; the all-market ranking excludes additional, relatively larger stocks after imposing the fund-data requirement.

A Methodological Diagnosis Compares Rolling and Fixed Turnover Benchmarks. A pre-crisis trading-crowding measure predicts LimitLock when the outcome uses a rolling 60-day turnover threshold (coefficient 0.204, $p = 0.042$), but the association drops to 0.084 ($p = 0.115$) under the fixed pre-crisis threshold. Therefore, it can be seen that a moving threshold is roughly in line with the fixed benchmark used in the main analysis.

FundHHI $\times$ Crisis is generally positive across most specifications, but the extent of statistical strength differs depending on the window, threshold, sample and control variables. The narrow window, 20-day benchmark and Top5 subsample are not considered conventional. Therefore, the conclusion is only directional and limited in the exploratory tests, not uniformly strong.

Table 4. Summary of Identification and Robustness Tests

Test	Estimate/result	p value	Interpretation
Placebo windows	-0.006 to -0.001	0.454-0.798	No pre-crisis pseudo-event effect
Monthly pre-trend	-0.021 to -0.014	0.276-0.475	No positive pre-trend
Industry $\times$ Crisis controls	0.078**	0.042	Positive after industry shocks
Quality $\times$ Crisis controls	0.060*	0.089	Direction retained; precision weaker
No daily controls	0.076**	0.047	Not driven by potential bad controls
Narrow Jan-Feb window	0.109	0.124	Larger magnitude; lower precision
Exclude Beijing Exchange	0.091**	0.043	Not driven by 30% price-limit stocks
Alternative small-cap ranking	0.037*	0.084	Positive but about half the baseline
Stock-level lock days OLS	0.083**	0.012	Positive cross-sectional result

The coefficients in the linear probability model have been multiplied by 100 for brevity. The stock-level lock-days coefficient is in days, and HC1 robust standard errors are used. The stock-level lock-rate OLS estimate is 0.089 ($p = 0.024$); the Poisson incidence-rate ratio is 1.408 ($p = 0.009$); and the rare-event logit odds ratio is 1.252 ($p = 0.065$).

VI. Conclusion

Determine whether the distribution of mutual fund holdings is correlated with liquidity constraints for small-cap Chinese stocks in the early part of 2024 under market stress. Stocks with more concentrated pre-crisis fund positions were more likely to close at the lower price limit and recorded a turnover lower than their own fixed pre-crisis median. The association still exists after controlling for aggregate fund ownership, fund coverage, pre-crisis characteristics, daily trading controls, stock fixed effects and date fixed effects. Aggregate ownership and the number of holding funds are not positively correlated.

Based on the decomposition results, the main association is more closely related to the weight of a single large fund than to the participation of many funds. In line with the view that a stock with a small number of institutional holders is more likely to be affected by holder-specific portfolio adjustments during times of stress, it is considered more risky. Fund flow, manager-level networks and transaction data are not included in the study. Redemptions, active sales, coordinated strategies and risk control are thus still feasible interpretations rather than identified mechanisms.

Therefore, it cannot be assumed that the level of institutional ownership is the same as that in the market. For fund-covered small-cap stocks, the internal distribution of institutional holdings can also be regarded as a type of stress-period liquidity risk. In the future, combining fund flow data, order-level trading data and manager network information will be done to study how ownership concentration affects price-limit rules and market liquidity.

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Digital and Intelligent Empowerment and Paradigm Shift —Challenges and Breakthroughs in the International Dissemination of Traditional Chinese Medicine Culture

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Abstract

Purpose – This study delineates the theoretical underpinnings of digital-intelligent empowerment, identifies the structural impediments currently obstructing TCM's global reach.

Design/Methodology/Approach – Based on WHO and TikTok data, the study analyzes digital intelligent reconstruction of TCM communication from epistemological and axiological perspectives, and proposes solutions for structural drawbacks.

Findings – Analysis identifies a three-dimensional paradigm shift of TCM: Epistemologically, multimodal databases, AI knowledge graphs and real-world evidence convert traditional empirical mysticism into data-based empirical science. Axiologically, algorithmic distribution, VR/AR and customized narratives replace cultural discount with value resonance. Methodologically, multi-stakeholder cooperation builds an interactive communication ecosystem to abandon one-way dissemination.

Research Implications – This paper constructs a tech-culture coupling framework for intercultural communication. It develops a three-tier system of content production, ecosystem optimization and technology integration, creates multilingual term libraries & VR/AR scenes, realizes blockchain-driven multi-party coordination, deploys digital intelligence for TCM clinical treatment, teaching and assessment, reconciles instrumentalism and value rationality, adopts ISO/TC249 norms, and completes TCM's transformation from scale expansion to value integration.

Keywords: Traditional Chinese Medicine culture; international communication; digital and intelligent empowerment; cultural discount; communication ecosystem

JEL Classifications: Z11,Z13

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I. Introduction

Traditional Chinese Medicine (TCM) occupies a position far exceeding that of a mere medical system; it constitutes an irreplaceable repository of Chinese civilisation, embodying profound insights into life, health and the human condition. It likewise serves as a vital strand of soft power in the construction of a global community of health for all. As conceptions of health continue to evolve worldwide, international appetite for TCM has grown markedly. The World Health Organization (WHO, 2022) reports that 113 member states now formally recognise TCM diagnostic and therapeutic modalities such as acupuncture, with a further 100 member states acknowledging broader applications of traditional Chinese medicine. Yet the international dissemination of TCM culture has long been hamstrung by a fundamental triad of problems: poor coordination among multiple communicative actors, content that remains opaque to foreign audiences, and communication effects that barely skim the surface (Sun et al., 2025). The persistent chasm between Chinese and Western medical discursive systems, the exoticisation of cultural symbols through inept translation, and an excessive dependence on conventional organisational and interpersonal channels (Sun et al., 2025; Guo et al., 2025) have all conspired to throttle TCM's global advancement.

The concept of "cultural discount" offers a well-established lens through which to interpret these difficulties. In their seminal 1988 article, Hoskins and Mirus argued that media products embedded in a particular cultural matrix inevitably shed appeal upon export, as divergences in style, values, belief systems and behavioural norms take their toll. At root, cultural discount stems from deep-seated differences in cognitive frameworks across cultures. Because TCM is anchored in Yin-Yang theory, the Five Phases and the visceral-meridian system, its epistemological logic departs radically from the anatomical-physiological foundations of Western biomedicine, erecting formidable barriers for foreign audiences seeking to grasp its philosophical substratum (Yu, 2025).

The swift maturation of digital-intelligent technologies is now rewriting the ground rules of cross-cultural communication. Algorithmic recommendation engines, Virtual Reality (VR/AR) technologies and big-data-driven user profiling are increasingly being marshalled to tackle these challenges. Employing the 5W communication model, Sun et al. (2025) have mapped the structural deficiencies of TCM culture's international dissemination across five dimensions—communicator, content, medium, audience and effect. Meanwhile, Xu et al. (2025) have deployed fuzzy-set qualitative comparative analysis (fsQCA) to isolate two distinct pathway configurations for TCM short-video dissemination on TikTok: the "expert knowledge—rational communication" route and the "cultural knowledge—emotional communication" route.

Nevertheless, the existing literature exhibits notable lacunae. Much of it has fixated on deploying isolated technological tools at discrete stages of dissemination, slipping into what might be termed technological instrumentalism, without probing how digital-intelligent technologies might fuse with the very essence of TCM culture. Ethical hazards and the spectre of cultural alienation attendant upon technological deployment have been largely overlooked; equally, the dynamic coupling among technology, culture and audience has failed to keep pace with the growing momentum of TCM cultural dissemination. Against this backdrop, the present

study seeks to move beyond narrow tool-centric perspectives and erect a three-dimensional "technology—culture—audience" analytical framework. It addresses three interlocking questions: How can digital-intelligent technologies advance TCM cultural dissemination through the reconstruction of epistemology, axiology and methodology? What pitfalls accompany the deployment of these technologies? And how might one craft an approach that simultaneously delivers efficiency and depth, localisation and standardisation, thereby propelling TCM culture's paradigm shift from mere global presence to genuine global recognition?

II. Theoretical Logic of Digital and Intelligent Empowerment: A Three-Dimensional Reconstruction

Deploying digital and intelligent technologies to restructure TCM cultural dissemination involves far more than simply multiplying channels; it signals a fundamental transformation in how knowledge is created, valued and circulated. This section unpacks the theoretical foundations of digital-intelligent empowerment across three dimensions: epistemology, axiology and methodology.

1. Epistemological Logic: From "Empirical Mysticism" to "Data-Driven Empiricism"

For decades, the Western medical mainstream has dismissed TCM as an empirical craft devoid of scientific rigour, while its theoretical edifice—Yin-Yang, the Five Phases, the viscera and meridians—has struggled to find a foothold within the reductionist paradigm of modern science. The primary rationale for introducing digital and intelligent technologies is to catalyse a modern epistemological transformation of TCM and to open fresh avenues for bridging the scientific discourse gap that separates Chinese from Western medicine.

One pivotal strategy is the construction of multimodal databases that leverage digital and intelligent technologies to transmute classical texts and accumulated clinical experience into computable, verifiable structured data. The TCMBank database, for instance, now catalogues 9,192 herbal medicines, 61,966 chemical constituents, 15,179 molecular targets and 32,529 disease associations, furnishing robust data support for investigations into the molecular mechanisms of herbal therapeutics (Lv et al., 2023). Complementing this, the HuaTuo model has been engineered to automatically extract and infer TCM knowledge systems from vast corpora of traditional literature (Wang et al., 2023). Such databases and knowledge graphs do more than facilitate new drug discovery; they also furnish empirical evidence at the molecular-biological level for seemingly abstract theories such as Yin-Yang and the Five Phases.

Concurrently, AI-assisted mining of real-world evidence (RWE) can demonstrate that TCM is fully consonant with the evidence-based medicine principles championed by the international community. Conventional randomised controlled trials (RCTs) impose stringent environmental controls that ill suit TCM's hallmark features—multi-component formulas and personalised diagnosis and treatment (Chen et al., 2021). Real-world studies (RWS), by contrast, draw upon data harvested from everyday clinical practice and can yield

evidence with superior external validity for assessing TCM efficacy (Chen et al., 2021). The National Medical Products Administration's 2020 *Guidance on the Use of Real-World Evidence to Support Drug Development and Regulatory Review (Interim)* furnishes a critical policy foundation for deploying RWE in TCM evaluation.

2. The Logic of Axiology: From "Cultural Discount" to "Value Resonance"

Among the most formidable obstacles to TCM's internationalisation is the phenomenon of "cultural discount". Yu (2020) contends that such discounting originates from attrition occurring at the encoding, transmission and decoding stages of cross-cultural communication, and that new digital technologies—by enriching user experience—can mitigate these losses (Yu, 2025).

To begin with, dissemination efficiency has undergone a genuine revolution. Social-media algorithms have shattered the spatiotemporal constraints of traditional media, enabling content on acupuncture, tuina and related topics to reach hundreds of millions of users at minimal cost. Empirical data show that between 2020 and 2024, TCM-related short videos on TikTok grew steadily year on year, spanning eleven thematic categories including acupuncture, cupping, tuina and medicinal cuisine, with peak viewership hitting 118.3 million (Xu et al., 2025).

Second, perceptual modalities have been radically intensified. VR/AR technologies have given rise to immersive scenarios such as the "virtual Chinese medicine dispensary" and "meridian visualisation", converting abstract philosophical constructs like qi and shen into embodied cognition through direct experience. Merleau-Ponty (2010), in his *Phenomenology of Perception*, posited that the perceiving subject is none other than the body situated in the world, rendering perception, body and world inseparable. Building on this insight, VR can render TCM's abstract knowledge system more accessible and compelling by engendering a sense of "presence" through culturally embedded contexts; it furnishes hands-on experience conducive to "embodied understanding" and weaves a web of "empathic" meaning.

Third, personalised narratives have emerged as a potent force. AI algorithms can tailor health plans to the distinct needs of populations across different regions: chronic disease management for audiences in Europe and North America, beauty and skincare for those in Southeast Asia. In so doing, they deliver both "practical value" and "cultural value" in equal measure. This renders it feasible to move TCM dissemination beyond one-way didacticism towards genuine two-way interaction, thereby bolstering public trust.

3. Methodological Logic: From "One-Way Indoctrination" to "Ecological Synergy"

TCM communication has historically been government-dominated, operating as a unidirectional transmission devoid of interaction or feedback (Sun et al., 2025; Guo et al., 2025). Digital and intelligent technologies are now forging an all-weather, collaborative communication ecosystem that is reshaping practices across actors, content and channels.

Luo's (2022) analysis of the documentary *Herbal China* illustrates how cooperation among diverse communicative actors can substantially amplify TCM's reach. Through its sophisticated audiovisual language

and compelling narrative architecture, Herbal China has kindled public interest in TCM both domestically and internationally, setting a benchmark for the mass communication of TCM culture. Meanwhile, blockchain technology is enabling the construction of an integrated "research—industry—education" platform that safeguards cross-border data security and bolsters international confidence in products via smart pharmaceutical manufacturing, while simultaneously fostering synergistic cooperation between cultural dissemination and industrial development.

III. Current Dilemmas: Structural Imbalances Under the Pressure of Technology

Notwithstanding the tangible benefits delivered by the new generation of technologies and artificial intelligence, a cluster of structural problems continues to plague actual implementation, impeding TCM cultural development by virtue of technology's own internal logic and the irreducible laws of culture.

1. Cultural Perception Dilemmas: Terminological Distortion and the Demonisation of Symbols

Technology has hardly resolved the problem of cultural misunderstanding; if anything, algorithmic bias may have deepened it. At the terminological level, most existing AI translation systems draw upon Western medical corpora, routinely rendering "上火" as "inflammation" or "气" as "energy" in ways that are crude and reductive. Such calque translations frequently strip core TCM concepts of their original semantic richness. The *WHO's International Standard Terminologies on Traditional Chinese Medicine* (IST 2022), though encompassing 3,415 terms and pioneering new phonetic transcription approaches, has yet to achieve widespread uptake across much of the globe. Similarly, while the International Organisation for Standardisation (ISO) has promulgated dozens of TCM standards through ISO/TC 249, the application of standardised terminology in clinical and cross-border regulatory contexts remains fraught with difficulties (Zhao, 2025).

On the symbolic front, the deployment of short-video formats ought to serve the dual purpose of conveying medical information—diagnostic and therapeutic methods, treatment outcomes—and excavating the deep cultural heritage of TCM, thereby forging communicative bridges with diverse cultures. Evidence from TikTok indicates that short videos carrying strong emotional bias perform better when the content is non-professional (e.g., cultural knowledge), whereas neutral emotional registers prove more effective for professional knowledge content. This suggests that algorithmic content promotion is context-sensitive rather than uniformly privileging emotional or sensational material (Xu et al., 2025).

2. Dilemmas in Technological Application: The Digital Divide and the Superficialisation of Content

Technological application is beset by serious deficiencies, and communication continues to hover at a superficial level. For one thing, uneven Internet access has left its mark across the globe. Complex divisions persist among nations and social groups regarding access to the digital economy, digital literacy and digital economic output, exacerbating gaps across economic, political, cultural and social domains. Africa, for instance, trails far behind developed regions in digital infrastructure coverage and Internet affordability (Wei and Liu, 2024), meaning that technological advantages have scarcely permeated such territories.

Simultaneously, algorithmic incentive mechanisms have triggered a creeping "death by entertainment" in content. On TikTok, non-professional content (health and wellness tips) in TCM short videos markedly outperforms professional knowledge content (treatment methods and theoretical expositions) (Xu et al., 2025). The upshot is a drift towards "technique at the expense of theory", with the consequence that foreigners frequently dismiss TCM as little more than a "health-promoting exercise" rather than a rigorous medical system. From a communication-studies vantage point, Yu (2020) has demonstrated that "cultural discounting" in cross-cultural settings stems from structural conflicts between cognitive frameworks and divergent encoding-decoding practices. Extending this argument, Yu (2025) maintains that only through the mediation of digital-intelligent technologies can deep cross-cultural alignment of meaning be achieved.

3. The Dilemma of Ecological Synergy: Imbalance of Actors and Data Silos

The communication ecosystem is plagued by acute synergy failures. To begin with, stakeholder structures are lopsided: government bodies shoulder the bulk of overseas communication projects, while non-governmental organisations and enterprises—arguably closer to ordinary people—remain marginal players. The result is a stifling of flexible, adaptive communication (Sun et al., 2025). Second, data security and compliance present formidable hurdles. As regulations such as the European Union's General Data Protection Regulation (GDPR) tighten, the collection of sensitive health data for TCM diagnostic applications—including tongue and pulse diagnosis—faces growing restrictions, driving up compliance costs for cross-border "Cloud TCM" platforms. Third, cross-platform data silos persist. Because data from YouTube, Instagram and TikTok remain unlinked, users encounter the same rudimentary content repeatedly, while in-depth theoretical knowledge fails to gain traction. No spiral effect capable of deepening user understanding can therefore take hold.

IV. Pathways to Breakthrough: Construction of a "Trinity" Practice System

In light of the foregoing problems, a comprehensive breakthrough strategy is required—one that advances an operational model anchored in "precision dissemination—value resonance—ecosystem synergy" and decisively

abandons the old "one-way dissemination" paradigm.

1. Content Production: Shifting from "One-Way Output" to "Multimodal Co-creation"

Content lies at the heart of communication. First and foremost, a national multilingual terminology database should be established. Adopting a "foreignisation plus annotation" translation strategy, core terms such as "气" ought to be transcribed as "Qi" and supplemented with philosophical elucidations; otherwise, excessive localisation risks eroding both original meaning and cultural sovereignty. The WHO IST 2022 and the ISO/TC249 standards series (2022) can furnish indispensable support for terminology normalisation, while future efforts should concentrate on promoting their practical application and educational dissemination.

Second, AI technologies should be harnessed to tag voluminous content and construct knowledge graphs, with algorithms then nudged to privilege in-depth material that "transmits the essence through technique." A user searching for "Baduanjin" instructions, for example, might be automatically directed to accessible philosophical content on "the unity of heaven and man", thereby countering the prevailing superficiality. Research has shown that through the three-dimensional integration of "sensory immersion—emotional interaction—spatial collaboration", VR technology can enable audiences to experience and absorb culture immersively, forge emotional bonds with it, and consequently cultivate a sense of cultural identity (Wang & Tian, 2026).

Finally, VR/AR technologies should be leveraged to craft immersive, embodied experiences that transmute TCM's abstract ideas into visualised, interactive encounters (Ma, 2026; Wang & Tian, 2026). Through emotional engagement and cultural alignment, audiences can be moved from passive reception to active identification (Yu, 2025). As stipulated in the "Implementation Plan for the Action on the Dissemination of Traditional Chinese Medicine Culture (2021–2025)" (2021), every available technological means should be mobilised to build an integrated TCM cultural dissemination platform that weaves together health and wellness knowledge, healthcare experiential learning, and leisure entertainment.

2. Optimising the Ecosystem: Shifting from "Individual Efforts" to "Multi-stakeholder Collaboration"

Cultivating a conducive dissemination environment demands the mobilisation of all manner of actors. Governments can deploy policy levers to steer Internet companies, foreign pharmaceutical firms and individual creators towards active participation. TCM enthusiast communities on Facebook and TikTok, for instance, can channel high-quality information through both official accounts and organic word-of-mouth. The success of the documentary *Herbal China* underscores that professionally produced programmes can achieve superior reach through multi-platform distribution and secondary diffusion across social media channels (Luo, 2022).

At the same time, a data security and cooperation architecture tailored to TCM's distinctive characteristics must be erected. Confronted with data silos and pressing personal-information protection concerns, a

trustworthy data-sharing platform underpinned by blockchain technology should be created. This would establish norms for the intelligent collection of TCM diagnostic data, standardise clinical workflows, build cross-regional medical consortium cooperation mechanisms, and ensure the efficient distribution of high-quality TCM resources to rural areas. At the national level, a dedicated TCM digital dissemination hub could be constructed to centralise user-data management and push content across multiple platforms, thereby expanding access for broader audiences.

3. Technology Integration: From "Tool-Assisted" to "Paradigm Reconstruction"

Technology ought to be embedded at every stage of cultural dissemination. In diagnosis, treatment and education, 5G and AI should be harnessed to develop remote smart diagnostic and therapeutic services, transcending spatial and temporal barriers and remedying the uneven accessibility that afflicts developing countries. The deployment of metaverse technologies in cultural dissemination (Wang & Tian, 2026) has further broadened the technological horizon. By generating virtual avatars and immersive experiential scenarios, a shift from static exhibition to dynamic participation becomes attainable (Wang & Tian, 2026). Ma (2026) has additionally proposed that such immersive metaverse environments could be purpose-built for TCM cultural dissemination, thereby deepening international trust and understanding.

To refine the evaluation and risk-control apparatus for AI-mediated TCM review, concrete measures—such as the automatic filtering of pejorative labels (e.g., "mystification", "esotericism") and the incorporation of cultural-accuracy assessment metrics—should be instituted, ensuring that dissemination is popular yet substantive. Moreover, drawing upon Zhang et al.'s (2025) framework for evaluating the international dissemination effectiveness of online games, the four-stage progression of "exposure—cognition—attitude—behaviour" can be adapted to gauge TCM dissemination outcomes.

V. Conclusion and Outlook

The international dissemination of TCM culture in the digital-intelligent era has already precipitated far-reaching changes in knowledge production, value formation and communicative method. While technology has furnished powerful tools for surmounting "cultural discounting", it simultaneously harbours the potential to become an agent of cultural alienation. Simply multiplying channels and stockpiling technological capacity will not resolve the fundamental challenge of identity; instead, a dynamic equilibrium must be pursued within the synergistic ecosystem of "technology—culture—institutions".

Looking ahead, effecting the transition of TCM cultural dissemination from "going out" to "going in" will require adherence to two guiding principles. First, we must transcend instrumental rationality and recover value rationality: although digital and intelligent technologies will undoubtedly accelerate cultural flows, the overriding objective should be to deepen their impact on the everyday lives of ordinary people. In technological

application, the core TCM tenet of "people-centredness" must be upheld; practitioners' syndrome differentiation and treatment must be shielded from wholesale replacement by AI; and digital archives should be deployed to preserve the oral traditions of veteran TCM practitioners, thereby wedding traditional inheritance to modern innovation. Second, communicative strategies must be attuned to the cultural and psychological specificities of different regions, striking an optimal balance between standardisation and localisation in accordance with ISO international standards for TCM terminology.

Only through such an approach can TCM—this ancient Eastern wisdom—be revitalised in the digital age to deliver genuine benefits to all humankind, and secure its place as an indispensable Chinese contribution to the global health governance architecture.

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Exploring the Development Path and Countermeasures of the Sports Rehabilitation and Wellness Industry under the Healthy China Strategy

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Abstract

Purpose – This paper looks at how China's sports rehabilitation and wellness industry has grown under the Healthy China policy framework, paying close attention to both the new opportunities opening up and the structural problems that still hold the sector back.

Design/Methodology/Approach – The research draws on a combination of literature review, field investigation, and comparative case analysis to take stock of where the industry stands today, what is getting in the way of progress, and what realistic improvement routes might look like. Special attention goes to the uneven spread of development across regions, gaps in service provision, the shortage of trained professionals, and the absence of shared industry standards.

Findings – Against this backdrop, the paper puts forward a twin-track framework built around "digital empowerment" and "multi-stakeholder synergy." On the technology side, tools like big data, AI, and wearable sensors can help tailor health services to individual needs. On the institutional side, getting policy levers, regulatory standards, workforce training, and business model innovation to work in concert is what sustainable development actually requires.

Research Implications – letting market forces do their job in allocating resources, while also making sure government guidance is effective rather than nominal. Pushing the sports-medicine integrated service model further and building out a more coherent industrial ecosystem will put the sector in a better position to contribute meaningfully to the Healthy China goals and to the broader task of improving public health.

Keywords: Healthy China Strategy; Sports Rehabilitation and Wellness Industry; Sports-Medicine Integration; Development Path; Industrial Ecosystem

JEL Classifications: I11, I18, Z21

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I. Introduction

China's economy has been changing fast, and so has its population—the country is aging, and aging quickly. These twin shifts have reshaped how people think about health. Demand for health-related services has grown more varied and more personal than it used to be. The release of the "Healthy China 2030" Planning Outline back in 2016 marked a turning point: health was no longer just a sector concern but a cross-cutting policy priority. Not long after, the General Office of the State Council put out guidance calling for tighter links between sports, healthcare, elderly care, and tourism. That push gave the sports rehabilitation and wellness sector a real boost. As part of the broader health service economy, this sector brings together physical activity, medical rehabilitation, and wellness maintenance under one roof—which is exactly what a population with increasingly complex health needs requires.

Growth in the sports rehabilitation and wellness industry has been hard to miss. Data from the General Administration of Sport show that the national sports industry hit 5.12 trillion yuan in total output in 2025, with fitness and leisure activities accounting for a growing share of that figure. At the same time, the National Health Commission reports that chronic disease sufferers now number over 500 million, and the population aged 60 and above is closing in on 130 million. Those numbers translate directly into demand for sports rehabilitation and health management services. But the industry has not had an easy ride. Cross-sector coordination is weak, professional service capacity is thin in many places, and development has been very uneven across regions (Mu Ruizhang & Luo Yongtai, 2025). Given all this, a serious look at development strategies and policy responses for the sports rehabilitation and wellness industry is overdue—both for the sake of the industry itself and for the millions of people whose quality of life depends on what it can deliver.

II. Theoretical Basis and Policy Evolution of the Sports Rehabilitation and Wellness Industry

The sports rehabilitation and wellness industry did not emerge from nowhere. It grew out of two converging forces: ideas crossing over between academic disciplines, and a sustained run of government policy support. On the intellectual side, advances in sports medicine, rehabilitation science, health management, and the sociology of physical activity together built the case for the sector's core claim—that structured exercise can improve health and that rehabilitative care can sustain wellness. On the practical side, how well an industry develops has always had a lot to do with how coherent the surrounding policy environment is. The Healthy China strategy provided exactly that kind of top-down scaffolding, turning what had been scattered experiments in sports rehabilitation and wellness into something more like a nationally coordinated effort. Before getting into where the industry stands today and what is holding it back, it helps to understand the theoretical roots and the policy logic that got it here.

1. Institutional Guidance for Sports-Rehabilitation Integration under the "Healthy China" Strategy

The "Healthy China 2030" Planning Outline is the master document for national health development. It sets an ambitious target: 16 trillion yuan in total health sector output by 2030, with the sports industry expected to chip in 5 trillion yuan of that. General Administration of Sport figures show that sports industry output climbed from 3.17 trillion yuan in 2010 to 5 trillion yuan in 2025—an average annual growth rate of around 10.3%. Over that same stretch, sports rehabilitation and wellness activities went from making up 68.7% of the health service sector to 72.7% (Shi Yan, 2025). That steady climb suggests the sector has been cementing its place as one of the main growth engines within the health economy. The "comprehensive health and holistic wellness" idea at the heart of the Healthy China strategy also helped by widening what physical activity is understood to be for—no longer just competitive sport and mass fitness, but health promotion and disease prevention too. That conceptual shift laid the groundwork for integrated sports rehabilitation and wellness development.

Looking at how policy has evolved, the Healthy China strategy's guidance on sports-rehabilitation integration has been both institution-building and incremental. The 2017 Outline for Building a Sporting Power was the first time "sports-medicine integration" showed up in national policy language. Two years later, the Healthy China Action Plan (2019–2030) spelled out more specific targets for national fitness and health promotion. In 2020, the Action Plan for Promoting High-Quality Development of the Health Industry put sports rehabilitation and wellness on the priority list. Then the "14th Five-Year Plan" for Healthy Aging in 2022 explicitly called for expanding sports rehabilitation and wellness services for older people. Taken together, these documents form a reasonably coherent governance framework—from broad strategic direction down to operational guidance, from central design to local implementation. National Health Commission data show that by the end of 2025, over 1,000 medical institutions across the country were offering exercise prescription services—six times the 2019 figure (Zhang Jiafeng & Deng Wanli, 2025). That kind of growth shows the industry has been responding to policy signals, and it also reflects a broader shift in how the sports sector sees its own purpose.

2. Reshaping Industrial Boundaries and Expanding Functions through Sports-Medicine Integration

The sports-medicine integration concept has been actively redrawing the lines of the sports rehabilitation and wellness industry and pushing its scope outward. Under the old setup, sports meant competitive athletics and mass fitness; medicine meant diagnosis and clinical treatment. The two rarely talked to each other. The integrative approach has broken down those walls, giving rise to a hybrid sector organized around health promotion as its central purpose (Rao Ke, 2025). Within this framework, the industry's service offering has grown well beyond fitness instruction to cover health monitoring, disease risk reduction, and rehabilitative care—a much richer portfolio than what existed before.

In practice, the convergence of sports and medicine has kept pushing service delivery in new directions. The

exercise prescription is the main vehicle through which sports-medicine integration actually works. The logic is straightforward: based on physical examination results and individual health assessments, qualified medical practitioners design exercise programs aimed at improving fitness, managing chronic conditions, and supporting recovery. The Physical Activity Guidelines for Chinese People, issued by the National Health Commission in 2021, gave this process a stronger scientific foundation (Shi Yan, 2024). Alongside this, newer service models—smart wellness, precision wellness—have been picking up steam. By putting big data, AI, and related tools to work, these models can monitor physiological indicators in real time, assess risk levels, and deliver automated coaching feedback. The result is a push toward more specialized, personalized, and technology-driven services. These changes are not just good for service quality; they also open up new commercial opportunities and raise the sector's overall trajectory.

III. Current Landscape and Critical Constraints Facing China's Sports Rehabilitation and Wellness Industry

With the theoretical foundations and policy history in place, the focus now shifts to what the industry actually looks like on the ground. Over the past several years, the Healthy China strategy has kept pushing the sector forward: markets have expanded, service categories have multiplied, and there has been some real progress in linking sports, healthcare, and elderly care resources. But the industry as a whole is still early-stage. Bright spots exist, but so do systemic gaps. Uneven regional development, lopsided service provision, personnel shortages, and weak standardization have all emerged as serious obstacles to moving from scale growth to quality improvement. Getting a clear picture of both what has worked and what has not is essential before any credible development pathway can be mapped out.

1. Practical Progress in the Integration of Sports, Medical, and Elderly Care Resources

China's sports rehabilitation and wellness industry has made measurable headway on resource integration, and a variety of development models have taken shape. One of the clearest examples is the medical-wellness complex approach seen at the Boao Lecheng International Medical Tourism Pilot Zone in Hainan Province, which brings together high-quality medical resources and wellness facilities on a single platform covering diagnostics, health management, and rehabilitative care (Chen Gang, 2024). Industry survey data show that by the end of 2023, more than 1,000 wellness bases had been set up nationwide, with over 65% of them incorporating sports rehabilitation functions. Major companies like Vanke and Taikang have also been building out integrated chains that connect insurance, healthcare, elderly care, and sports—providing working models for the broader sector to learn from.

Collaboration between medical institutions and sports organizations has also produced some encouraging results. Beijing Sport University's Institute of Sports Medicine, working with several large hospitals, set up a

sports rehabilitation center that uses advanced equipment and methods to deliver individualized rehabilitation programs for chronic disease patients—with measurable improvements in recovery outcomes (Hu Mi & Zhang Wei, 2024). In Shanghai, the Municipal Sports Bureau and the Municipal Health Commission jointly piloted a "sports-medicine integration" program, setting up more than 200 community-based exercise and health guidance stations across the city. These stations are staffed by professional health coaches who handle everything from exercise risk assessment to personalized exercise prescription. Initiatives like these have done a lot to advance resource integration and build up service delivery capacity in the sector.

2. Unbalanced Regional Development and Structural Imbalance in Service Supply

Despite the sector's overall growth, regional imbalances remain a persistent and serious problem. In the more developed eastern coastal areas, stronger fiscal conditions and more active policy support have allowed the industry to take shape and begin clustering (Feng Wengang, 2023). 2025 data show that the Yangtze River Delta, Pearl River Delta, and Beijing-Tianjin-Hebei region together accounted for 67% of national industry output, while the central and western regions combined managed only 33%. The reasons are not hard to identify: different levels of economic development, varying degrees of policy support, and uneven infrastructure. The practical result is that quality sports rehabilitation and wellness resources are heavily concentrated in the developed east, leaving people in the vast central and western regions with far less access to decent services.

The structural imbalance in service supply is another issue that deserves serious attention. Right now, sports rehabilitation and wellness services in China are mostly aimed at higher-end consumers, while middle-aged and elderly people and those with chronic conditions are being underserved (China Sport Science Society, Sport Sociology Branch, 2023). A 2023 survey by the China Health Management Association found just over 5,000 institutions with professional sports rehabilitation credentials nationwide—nowhere near enough to meet growing demand. Service standardization is also weak: there is no comprehensive set of sector-wide norms and evaluation criteria, which means service quality varies enormously from one provider to the next. The personnel shortage compounds all of this. The most acute gap is in interdisciplinary practitioners who are genuinely competent in sports medicine, rehabilitation science, and nutritional science—people who can handle the full complexity of what clients actually need. That shortage is a real bottleneck.

IV. Pathway Construction for High-Quality Development of the Sports Rehabilitation and Wellness Industry

Now that the main constraints facing China's sports rehabilitation and wellness industry have been laid out, the question becomes: what does a realistic path toward high-quality development actually look like? High-quality development is not just about getting bigger. It means improving service capability, delivery efficiency,

user experience, and the institutional environment all at once. The current wave of technological change is reshaping the logic of health service provision in fundamental ways—digitalization, intelligent systems, and platform-based business models are creating new possibilities for getting around resource constraints, narrowing regional gaps, and making services more precise. But technology alone cannot fix the industry's deep structural problems. It has to be paired with progress on institutional design, workforce development, and business model innovation. With that in mind, this section approaches the practical pathways toward high-quality development through two lenses: digital empowerment and multi-stakeholder collaborative synergy.

1. Innovation of Personalized Health Service Models Enabled by Digital Empowerment

The rapid advance of digital technology has given the sports rehabilitation and wellness industry a real technical foundation for transformation and upgrading. In recent years, as China's digital health sector has kept expanding, the sports rehabilitation and wellness field has been putting emerging technologies—AI, big data, the Internet of Things, cloud computing—to work in building user-centered smart health service systems. This is what makes personalized and precision-oriented service delivery possible in practice.

At the front end, the spread of smart wearable devices has made real-time health data collection genuinely practical. Through smart wristbands, body composition analyzers, and sports watches, users can now get multi-dimensional physiological readings—heart rate, gait, sleep quality, energy expenditure—on an ongoing basis. Health monitoring has shifted from looking backward to looking forward. In the middle layer, personalized exercise prescription systems built on big data and machine learning can pull together information about a user's demographics, exercise history, physical condition, and lifestyle to generate tailored exercise plans and keep refining them over time (Zou Qinghai, Dong Yu, Peng Wanjun, et al., 2022). At the back end, remote health monitoring platforms use cloud infrastructure to deliver health services across geographic boundaries—something that matters especially for elderly people and those managing chronic conditions.

Smart health management platforms have pushed this transformation further. These platforms bring together hospitals, fitness centers, wellness facilities, and other service providers into a single digital service chain covering the full continuum from "prevention through treatment to rehabilitation and wellness maintenance" (Xiang Zhaoshan, Feng Minghui, & Li Zhongwen, 2023). Virtual reality is being applied to sports-based rehabilitation training, making sessions more engaging and improving patient compliance. Blockchain is helping protect personal health data while allowing trusted sharing across institutions. And the widespread use of mobile health apps has made it possible for users to get professional exercise guidance, nutritional advice, and wellness consultations whenever and wherever they need them—cutting down the barriers to quality health services considerably.

2. Multi-Stakeholder Collaborative Mechanisms: Integration of Policy, Standards, Talent, and Business Models

Getting the sports rehabilitation and wellness industry to genuinely high-quality development requires coordinated movement on multiple fronts—government support, regulatory standards, human resource development, and business model innovation all need to move together. On the policy side, the state has put out a series of foundational documents—the "Healthy China 2030" Planning Outline, the Opinions on Promoting National Fitness and Sports Consumption—that provide the top-level institutional backing for sector growth. By 2025, 21 provincial-level jurisdictions had rolled out dedicated support policies for sports rehabilitation and wellness, with total public financial commitments reaching around 15 billion yuan. Tax breaks, land-use incentives, and direct financial support have lowered the barriers to entry and pulled in significant private investment. On standardization, work is intensifying to build out a comprehensive standards framework covering service quality, safety, personnel credentials, and facility requirements—the basic conditions for orderly sector development.

Workforce development and business model innovation have been providing their own momentum. More than 150 universities now offer programs in sports rehabilitation, health management, and related fields, producing around 28,000 graduates a year—but the gap between supply and demand is still wide. Industry-education integration models have been gaining ground in response: university-enterprise partnerships, jointly run internship facilities, and "dual-qualification" instructors who combine academic credentials with real industry experience are all being used to improve the quality of graduates (Wang Longfei & Yin Xiaocui, 2020). On the business model side, new service formats have been emerging—membership-based personalized planning, combined basic-plus-commercial insurance coverage, integrated online-to-offline delivery—that diversify both what is on offer and how revenue is generated. Notably, as medical insurance payment reforms move forward, some pilot areas have started including sports rehabilitation services in reimbursement schemes. That is an important opening for sustainable sector growth (Li Fangyuan, 2024).

Digital empowerment and multi-stakeholder synergy are not two separate tracks. They depend on each other. Digital tools provide the means for delivering personalized services with real precision; institutional alignment, qualified people, and business model innovation create the conditions under which those tools can actually be scaled. Only when both are working together can the sports rehabilitation and wellness industry make the shift from quantitative growth to genuine qualitative improvement.

V. Conclusion

This paper has worked through the developmental logic, practical constraints, and high-quality development pathways of China's sports rehabilitation and wellness industry against the backdrop of the Healthy China strategy. The analysis suggests that the sector's rise can be traced to the interplay between theoretical innovation

and institutional supply. The "comprehensive health" idea at the core of the Healthy China strategy has set the directional course at the normative level, while the sports-medicine integration concept has provided the operational methodology for cross-sector convergence. Together, these two forces have acted as a kind of dual engine for the industry.

On the empirical side, China's sports rehabilitation and wellness sector is at an early stage where growth momentum and structural growing pains coexist. The positives are real: the market is expanding, cross-sector integration of sports, healthcare, and elderly care resources is beginning to show results, and the sports industry reached 5.12 trillion yuan in 2025 with the sports rehabilitation and wellness share trending upward. But the problems are equally real. Regional disparities are stark—the three main eastern clusters account for 67% of national output. Service provision is structurally lopsided, with middle-aged and elderly people and chronic disease sufferers conspicuously underserved. Personnel shortages persist, with only 28,000 graduates a year falling well short of what is needed. And the absence of a solid industry standards framework remains a drag on quality. These are the main bottlenecks blocking the transition from scale-driven to quality-driven growth.

To address these constraints, this paper proposes a "digital empowerment + multi-stakeholder synergy" twin-track pathway. On the digital side, a layered architecture—front-end data collection, midstream intelligent analytics, back-end service delivery—can drive innovation in personalized exercise prescription, remote health monitoring, and smart health management, using technology to narrow regional gaps and sharpen service precision. On the multi-stakeholder side, policy support, regulatory standards, workforce development, and business model innovation need to come together as an integrated institutional force. A coordinated package—targeted support policies, a comprehensive standards framework, industry-education training models, and health insurance reimbursement reforms—can provide the systemic institutional backing that high-quality development requires. These two dimensions reinforce each other: digital tools supply the precision instruments for personalized care, while multi-stakeholder synergy creates the environment in which those tools can be deployed at scale. Working together, they map out a practical path for the industry's transition toward high-quality development.

Going forward, the sports rehabilitation and wellness industry needs to stay aligned with the Healthy China agenda and keep innovation at the center of its growth strategy. The priority should be accelerating the adoption and deepening of the sports-medicine integration service model, building out a more coherent industrial ecosystem, and raising both standardization and specialization. At the same time, market forces need room to work in resource allocation, and government guidance needs to be both stronger and more targeted. Coordinated action across policy support, standard-setting, workforce development, and business model innovation—bringing together diverse stakeholders and pooling their strengths—is what will actually move the sector toward sound and sustainable development.

As health awareness keeps rising and household consumption patterns keep shifting, the sports rehabilitation and wellness industry is set to play a bigger role in advancing the Healthy China agenda, improving population health, and generating new economic growth. As one of the main growth poles in the health service economy, how well it develops matters not just for its own commercial performance but, more fundamentally, for

how people actually feel about their lives. That said, some important questions remain open: how to make sure policy implementation reaches the actual service delivery points, how to build business models that are financially sustainable over time, and how to promote equitable access to services across urban and rural areas—these are all issues that deserve continued research attention.

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Ethical Guidelines

Chapter 1. General Rules

Article 1 (Purpose)

The purpose of the following rules is to present the basic ethical principles and direction needed to ensure the research ethics of editorial board members, peer-reviewers, and authors who examine or submit articles to the Journal of Advanced Academic Research and Studies (JAARS). NLBA Eurasian Institute publishes these rules to present the procedure and actions for research misconduct.

Article 2 (Object of the Study and Scope)

The research is subject to sanction, investigation and judgement to determine whether research ethics were followed when any of the following occurs:

- i. The study was submitted to the Journal of Advanced Academic Research and Studies,
- ii. The study was confirmed to be published in the Journal of Advanced Academic Research and Studies,
- iii. The study has already been published in the Journal of Advanced Academic Research and Studies.

Chapter 2. Honesty and Social Responsibility of the Research

Section 1. Honesty in the Research

Article 3 (Honesty of the Research)

- a. Researchers must conduct every research behavior (proposing research, researching, reporting and presenting research, investigating and judging) honestly and sincerely.
- b. Researchers must describe the content and the importance of the study clearly and objectively, and must not delete or add results arbitrarily.
- c. Researchers must carry out every study without any bias or prejudgment.

Article 4 (Ethics for Researchers)

- a. Researchers must not commit research misconduct during any part of the research process.
- b. A study must not be submitted if it has been published in other journals, and researchers must not request review of the study to different journals at the same time. However, a thesis or a paper presented in a conference as a working paper shall be exceptions.

Article 5 (The Record, Storage, and Report of Research Data and its Disclosure)

- a. All research information must be clearly and precisely recorded, processed, and preserved so that it may be accurately analyzed and confirmed.
- b. Researchers shall use proper research methods and statistics, and those shall be available to the public if necessary.

Section 2. Fairness in Researchers' Contributions

Article 6 (Collaborative Research)

Researchers must make the roles and contributions of all contributors clear if they conduct a joint study with other researchers, and shall take full responsibility for establishing this. Prior to conducting research, mutual agreement and understanding shall be made with regard to property rights and ownership issues, research director selection, authorship and the standard of order. the data collection method. individual role in the study. and expectations and objectives of the study.

Article 7 (Responsibility and Duty, Order of Authors)

- a. Researchers are responsible only for the study that they carry out or are involved in as an author, and are recognized for that achievement.
- b. Authors must accept requests for proof of their contributions.
- c. The order of authors must accurately reflect the academic contribution by each author to the research contents or results, regardless of the authors' relative positions.

Article 8 (Corresponding Author)

- a. Corresponding authors shall take overall responsibility for the results of the study and proofs.
- b. Corresponding authors shall have the burden of proof with respect to the order of the author and co- author(s).

Article 9 (Affiliation of Author)

When indicating the affiliation of author(s), the author's current status in principle shall be given. However, it is possible to follow the customs of the author's academic field if their field of affiliation follows a different custom.

Chapter 3. Research Misconduct and Unethical Research Conduct

Section 1. Methods and Principles of Citation

Article 10 (Methods and Principles of Citation)

- a. The author may cite a part of other researchers' studies in his/her research paper using their original text, or the translated version by introducing, referring to or making a comment on the original.
- b. The author shall take all possible measures to ensure the accuracy in stating sources and making the list of references. The author must confirm all elements of a citation (author's name, number/volume of the journal, page and published year) not depending on the secondary source but solely on the original work. However, when inevitable, the author can include with acknowledgment.
- c. The author must cite in a reasonable manner and use the good faith principle, so that uncited works can be clearly distinguished from cited works.
- d. The author must cite published works only. However, in the case of citing unpublished academic materials that have been acquired through personal contact, paper review or proposal review, the author must acquire consent from the relevant researcher(s).
- e. When the author introduces ideas or theories in his/her work that have been presented in another study, the source must be stated.

- f. The author must distinguish his/her own ideas from cited materials when borrowing substantive parts from one source, so readers can clearly recognize the author's work.
- g. If a reference has a significant impact on the direction of the research or can help the reader understand the contents, the author must include all such works on the list of references, except in such cases where the relevant research can theoretically and empirically be inferred.

Article 11 (Method of General Knowledge Citation)

- a. If the author uses someone else's idea or a fact provided by them, the source should be provided. However, general knowledge or material that general readers will already recognize shall be an exception.
- b. If the author is unsure whether any concept or fact qualifies as general knowledge, it is recommended to cite the original text.

Section 2. Research Misconduct

Article 12 (Definition of Research Misconduct)

“Research misconduct” refers to any instances of forgery, falsification, plagiarism, failure to give proper credit to co-authors or redundant publications that may emerge during the entire research process (research proposal, conduct of research, report and presentation of research, investigation and judgement).

- a. “Forgery” refers to the act of presenting non-existent data or research results.
- b. “Falsification” refers to the acts which artificially manipulate research processes, randomly modify, or delete data resulting in distorted research content or research results. (Here, “deletion” refers to the act of using only favorable data and intentionally excluding the data that might cause unexpected or undesired results.).
- c. “Fabrication” refers to the act of intentionally creating a document or record that does not exist.
- d. “Plagiarism” refers to the acts which pirate other's work, ideas or research, using ideas, hypotheses, theories, research contents, or research results without justifiable approvals, citation, or quotations, as if those were his/her own.
 - i. “Idea Plagiarism” refers to the act of using someone else's ideas (explanations, theories, conclusions, hypothesis and metaphors) in full, substantial proportions or in a fragmented revised form without giving appropriate credit to the originator of the words and ideas. Authors have moral responsibility to indicate the source of ideas through a footnote or a reference. Authors must furthermore not steal other's ideas which are known through peer review of research proposals and submitted articles.
 - ii. “Text plagiarism” refers to the act of copying text from another's work without clarifying the original author.
 - iii. “Mosaic plagiarism” refers to the act of combining a part of a text with a few words added, inserted or replaced with synonyms, and others without clarifying the source or the original author.
- e. “Redundant Publication” refers to the act of publishing a paper that is identical or highly similar text to one that has already been published in the past in another academic journal without alerting the editors or readers of the fact that this work was previously published elsewhere. If the contents of the paper are almost the same as his/her previously published paper, the later paper is regarded as a redundant publication even if the text has a different point of view or perspective, or including a different analysis based on the same data that has been previously published. In the case in which the author would like to publish a paper using a previously published paper, he/she must acquire permission from the chairperson after providing the information about the publication and double-checking whether it is a redundant publication or duplication of a publication.

- f. “Self-plagiarism” refers to the act of using images, graphs or part of one's own research already published without identifying the source, and it is regarded as redundant publication.
- g. “Failing to give proper credit to co-authors” refers to the act of failing to list those who have contributed academically to the research process or results as a co-author or conversely to the act of listing those who have not made any academic contribution as co-authors.

Article 13 (Research Misconduct and Copyright Infringement)

- a. Generally, the copyright of all papers and instances published through NLBA Eurasian Institute is assigned to the author. However, if they are utilized for public objects like education, NLBA Eurasian Institute owns the right of use.
- b. The full term of copyright is assigned to the academic journal publisher in all papers published in academic journals.
- c. It should be noted that “Redundant Publication” may cause copyright violation.
- d. It should be noted that the author should use proper quotation marks when widely citing text from copyrighted sources, and even if the text is properly cited, it could infringe copyright.

Section 3. Inappropriate Writing

Article 14 (Inappropriate Writing)

The following are regarded as inappropriate writing:

- i. Inappropriate citations
- ii. Distorting references
- iii. The act of depending on abstracts when citing the published paper
- iv. Citing papers that the author did not read or understand
- v. The act of partially citing despite intensively borrowing from a single source
- vi. The act of reusing text

Article 15 (Prohibition of Distortion of References)

- a. References must only include documents that are directly related to the article content. Unrelated references for the purpose of intentionally manipulating the citation index of the paper or academic journal should not be included.
- b. As a moral responsibility, the author should not only cite the references which will be favorable to his/her data or theory, but also cite references which may contrast with his/her point of view.

Article 16 (Reuse of Text)

- a. “Reuse of Text” refers to the act of re-using a part of the manuscript that he/she has used in a previous paper.
- b. Text reuse is an act contradictory to ethical writing, so the author must avoid re-using text already used. In case of unavoidable text re-use, the author should not violate copyright infringement by following standardized reference practices including the use of quotation marks or proper indication.

Chapter 4. Ethical Rule Enforcement

Section 1. Research Ethics Committee

Article 17 (Ethical Rule Pledge)

New members who have enrolled in the research pool of NLBA Eurasian Institute shall acquaint and pledge to abide by these research ethics when submitting to the “Journal of Advanced Academic Research and Studies” and conducting research. Current members shall be regarded as having pledged to abide by these research ethics when initiated.

Article 18 (The Announcement of Violation of Ethical Rule)

If a member learns that another member has violated any ethical rules, he/she should endeavor to correct the mistake by helping make him/her be aware of the rules. However, if he/she does not correct the violation or the ethical violation is obviously unveiled, the member must report to the committee immediately.

Article 19 (Organization of the Research Ethics Committee)

NLBA Eurasian Institute shall establish a Research Ethics Committee (hereinafter referred to as the “Committee”) mandated to deliberate on matters falling under each of the following sub-paragraphs:

- a. Matters concerning establishment and revision of these rules.
- b. Matters concerning acceptance and handling of misconduct.
- c. Matters concerning beginning actual investigation and decision, approval, and re-deliberation of investigation results.
- d. Matters concerning protection of informant and examinee.
- e. Matters concerning investigation of research integrity, handling of investigation results and follow up measures.
- f. All the matters concerning operations of other committees.

Article 20 (Organization of Research Ethics Committee)

- a. The Committee shall consist of one chairperson and members of no less than five but no more than nine persons.
- b. The chairperson and the members shall be appointed by the chairman of NLBA Eurasian Institute.
- c. The members of this committee shall hold a one year term and they may be reappointed.
- d. The chairperson and the members of this committee shall maintain independence and confidentiality with respect to the details relating to deliberations and decisions.

Article 21 (Organization of Research Ethics Committee)

- a. The chairperson of the committee shall convene any meeting and preside over such meetings.
- b. The committee's meetings shall open with the attendance of a majority of the total members including the chairperson and resolve with the concurrent vote of a majority of those present.
- c. No meeting of the committee shall be open to the public. [The meeting shall not be open to the public in principle, but whenever deemed necessary, the committee can ask the related party and hear their opinions.]
- d. Whenever deemed necessary, the committee can ask the related party and hear their opinions.
- e. Any member who is involved in the research subject to an investigation will not be permitted to attend the concerned meeting due to a conflict of interest.

Article 22 (Authorities and Responsibilities of the Committee)

- a. The committee can summon for attendance and data submission any informants, examinees, witnesses and testifiers, in the process of an investigation.
- b. When the examinee refuses to attend the meeting or data submission without a justifiable reason, it could be presumed as an indication that he/she has acknowledged the allegations.
- c. The committee can take substantial measures to prevent any loss, damage, concealment or falsification of research records or evidence.
- d. The committee members should comply with confidentiality concerning deliberation-related matters.

Section 2. Research Integrity Investigation

Article 23 (Reporting a Fraudulent Act)

An informant can report a fraudulent act using any means available when reporting using their real name. However, when reporting anonymously, he/she must submit the title of the paper, and the evidence and detail of the misconduct in writing or by e-mail.

Article 24 (Confidentiality and Protection of Rights of Examinee and Informant)

- a. The committee should not reveal the personal information of the informant unless it is necessary.
- b. The committee must take action to protect the informant if the informant experiences illegitimate pressure or threats due to reporting the fraudulent act.
- c. Until the investigation of a fraudulent act is completed, the committee must be careful not to infringe upon the rights or reputation of the examinee. If the person turns out to be innocent, the committee must make efforts to recover the reputation of the person.
- d. The identity of the informant, investigators, testifiers, and consultants should not be disclosed.
- e. All facts relating to research ethics and authenticity investigations must remain confidential and the people involved in the investigation must not reveal any information obtained during the process. If there is a need to disclose related information, the committee can vote to make such a decision.

Article 25 (Raising an Objection and Protection of Defense Right)

- a. The committee must ensure the informant and examinee have equal rights and opportunities to state their opinions and objections. Such procedures must be informed to them beforehand.
- b. An examinee or informant may require the avoidance of deliberation and decision after explanation in case he/she expects an unfair decision.
- c. The research ethics committee must give the examinee a chance to submit their opinion and clarify any fact revealed during the first report or any additional report.

Article 26 (Preliminary Investigation of Research Misconduct)

- a. The committee must investigate the presence of misconduct if there is a considerable doubt about legitimate conduct or detailed information about misconduct.
- b. The chairperson can officially carry out the investigation (hereinafter referred to as the "preliminary investigation") which is a procedure to decide whether the suspected misconduct should be investigated after consultation with the chairman of NLBA Eurasian Institute.

- c. The committee shall form the preliminary investigation committee consisting of no more than five members within 30 days of reporting.
- d. The committee shall inform the informant and examinee of the formation of such a committee, and give the examinee a chance to clarify within 30 days.
- e. A preliminary investigation is initiated within 30 days of the formation of the preliminary investigation committee and the investigation should be completed within 30 days of the start of the investigation except in unavoidable circumstances.
- f. If it has been more than five years since a misconduct was committed, the reporting is not handled in principle even if the reporting is accepted.
- g. Through preliminary investigation, the following is reviewed:
 - i. Whether the reported instance qualifies as research misconduct
 - ii. Whether the reporting is specific and clear enough to lead to an actual investigation
 - iii. Whether more than five years has passed since the reported misconduct was committed

Article 27 (Report and Notice of the Preliminary Investigation Result)

- a. The result of the preliminary investigation shall be notified to the informant and examinee within ten days of the committee's decision, and reported to the chairman of NLBA Eurasian Institute.
- b. The result report of the preliminary investigation must include the following:
 - i. Specific information regarding the alleged misconduct
 - ii. Facts regarding the alleged misconduct
 - iii. Grounding for decision on whether to conduct an actual investigation

Article 28 (Raising an Objection and Protection of Right of Defense)

- a. The committee must ensure that the informant and examinee have equal rights and opportunities of opinion statement and objection. Such procedure must be informed beforehand.
- b. The informant and examinee can make an objection within ten days from the day of being notified of the preliminary investigation.

Article 29 (Beginning and Duration of an Actual Investigation)

- a. The actual investigation begins within 30 days after a positive result from a preliminary investigation. During the period, the actual investigation committee consisting of no more than nine persons (including the preliminary investigation committee) must be formed to conduct an actual investigation.
- b. The actual investigation must be completed within 90 days from the beginning date.
- c. If the investigation committee decides that it cannot be completed within the specified period, it can explain the reason to the committee and request a 30 day extension (one time only).

Article 30 (Formation of an Actual Investigation Committee)

- a. An actual investigation committee is composed of no more than nine members.
- b. Formation and duration of an actual investigation committee is determined by the committee. The chairperson of the actual investigation committee is elected among the actual investigation members.
- c. The investigation committee shall include at least two members with specialized knowledge and experience in the relevant field.
- d. A person who has a stake in the investigated matter must not be included in the actual investigation committee.

Article 31 (Request for Appearance and Document Submission)

- a. The actual investigation committee can request the examinee, informant(S), and testifiers to appear for testimony and the examinee must comply.
- b. The actual investigation committee can ask the examinee for submission of a document, and retain and store the relative research materials about the person involved in the misconduct after the approval of the head of the research organization in order to preserve evidence relating to the investigation.

Article 32 (Exclusion, Avoidance and Evasion)

- a. The examinee or informant(s) can require exclusion by identifying the reason if there are reasons to believe that a committee member is unable to maintain fairness. When such request for exclusion is recognized, the member subjected to the request shall be excluded from the concerned investigation.
- b. If the committee member is directly related to the corresponding matter, he/she shall be excluded from all deliberation, decisions and investigation of the matter.
- c. The chairperson can suspend the qualification of a member who is related to the corresponding matter in connection with the corresponding investigation.

Article 33 (Investigation Report Submission)

The actual investigation committee must submit the result to the committee within the actual investigation period, and the result must include the following:

- i. Specific details of the alleged misconduct
- ii. Facts regarding the alleged misconduct
- iii. Evidence, witness list and affidavits
- iv. Investigation results
- v. Other data useful for decisions

Article 34 (Decision)

- a. The decision must be made within six months from the beginning of the preliminary investigation.
- b. The committee shall make the decision confirming that the examinee committed research misconduct after reviewing the result report.

Section 3. Action after Investigation

Article 35 (Action in accordance with Investigation Result)

When a decision is made confirming the research misconduct, the committee can sanction the author with applicable punishment to each of following, or impose corresponding retribution.

- i. The publication is postponed until the final decision of the research ethics committee is made even if the paper has been confirmed to the author that it will be published.
- ii. The publication of the paper to which the research misconduct is related is to be canceled and deleted from the article list of the journal even if the volume has already been published.
- iii. The author found to have committed such misconduct is prohibited from submitting papers to the journal for three years, and these facts are made public on the homepage of the journal (<http://www.nlbaei.org>).

- iv.If there is an author found to have committed plagiarism or redundant publication, the editorial board stores the relevant investigation details for five years.
- v.The chairperson of the organization with which the author(s) is affiliated is notified of the final decision.

Article 36 (Investigation Result Notification)

The chairperson of the committee shall immediately notify the related persons such as the informant and examinee of the committee's decision regarding the investigation result in writing.

Article 37 (Investigation Result Notification)

- a.If the informant or the examinee refuses the committee's decision, he/she must submit a re-deliberation request to the committee within 15 days from receipt of the result notice as prescribed in Article 37.
- b.The committee must decide whether re-deliberation is necessary within 10 days of the receipt of the re-deliberation request.
- c.The committee will decide there-deliberation procedure and method.

Article 38 (Follow-ups such as Recovery of Author's Honor)

If the results of the investigation confirm that no research misconduct has been identified, the committee must take follow-up steps to recover the reputation of the examinee.

Article 39 (Storing the Record and Confidentiality)

- a.All records regarding the preliminary and actual investigation are stored for five years from the date of the investigation's conclusion.
- b.All facts relating to research ethics and the investigation must remain confidential and the people involved in the investigation must not reveal any information obtained during the process. If there is a need to disclose investigation information, the committee can vote to make such decision.

Article 40 (Etc.)

Matters that are not determined by these rules are to be decided by the editorial board.

Article 41 (Date of Effectiveness)

These regulations shall be effective as of January 1, 2024.

Editorial Regulations

Journal of Advanced Academic Research and Studies (JAARS)

Chapter 1. General Roles

Article 1 (Purpose)

The purpose of the following rules is to prescribe matters regarding the editorial work and standards for the Journal of Advanced Academic Research and Studies (hereinafter referred to as “JAARS”) published by NLBA Eurasian Institute.

Chapter 2. Editorial Committee

Article 2 (Editorial Committee)

The editorial committee (hereinafter referred to as “committee”) is established in order to accomplish the purpose of Article 1.

Article 3 (Formation of Editorial Committee)

- a. The editorial members shall be appointed by the chairman of NLBA Eurasian Institute, and the committee shall consist of no more than 50 members.
- b. The chief editor shall be appointed by the chairman of NLBA Eurasian Institute and is in charge of all editing.
- c. The editorial committee shall be composed of two chief editors, one editor, and one managing editor. The editors are appointed by the chairman of NLBA Eurasian Institute among editorial members.
- d. The term for the chief editor is three years, and the term for the editorial members is two years, and editorial members may be reappointed.
- e. This committee makes decisions with a majority attendance of the members and a majority agreement of the members present.

Article 4 (Qualification of Editorial Members)

The editorial members shall meet the following qualifications:

- i. Being at least an associate professor in a domestic/international university or a person equally qualified
- ii. Someone who studies in an area within the JAARS's specialty and who has published at least 3 articles in a journal (or 1 article in an SCI, SSCI and/or SCOPUS indexed journal) within the last three years

Article 5 (Responsibilities and Obligations of Editorial Members)

- a. Editorial members are fully responsible for the decision to publish JAARS-submitted papers, confirm their integrity during the deliberation process, and observe candidates during the editing process.
- b. Editorial members should respect the author's person and independence as a scholar, and make the process of the evaluation of the research paper public if there is a request.
- c. Editorial members should handle submitted papers only based on the quality and submission guidelines, not based on the author's gender, age, or affiliation.

- d. Editorial members should request a reviewer with specialized knowledge and fair evaluation ability in the relevant field to evaluate submitted papers. However, if evaluations of the same paper are remarkably different, editorial members can acquire advice from an expert in the relevant field.
- e. Editorial members should not disclose the matters of the author and the details of the paper until a decision is made pertaining to the publication of the submitted paper.

Chapter 3. Paper Submission and Peer Review Committee

Article 6 (Qualification of Submission and Submission)

- a. All the paper submitters must be members registered with JAARS.
- b. All papers should be submitted through the JAARS's online submission system (<http://www.nlbaei.org/>) and Email: edubscon@outlook.com, and can be submitted at any time. English-language papers from authors outside of the United States of America may also be submitted using e-mail.

Article 7 (Formation of Peer Review Committee)

- a. Peer reviewers are appointed by the chief editor, and selected based on the field of the reviewer's expertise. (According to circumstances, a peer reviewer who is not a member of JAARS may be appointed.)
- b. Editorial members for each content subject such as international economy, international management, or practice of trade can also serve as peer reviewers.
- c. The chief editor represents editorial members, handles all the matters relating to review, and reports the results of peer review to the committee.
- d. The managing editor is in charge of the procedure relating to review.
- e. The classification and selection of submitted papers is decided by the chief editor and the managing editor, and they report it to the committee.

Article 8 (Qualification of Peer Reviewers)

Peer reviewers shall have the following qualifications:

- i. Being at least an associate professor in a domestic/international university, or a person who is as equally specialized as the person above.
- ii. Someone who studies an area within the JAARS's specialty and has published at least 3 articles in a journal (or 1 article in an SCI, SSCI and/or SCOPUS indexed journal) within the last three years.
- ii. Someone who presents a paper, chairs a session or serves as a discussant at an academic conference at the same level of the institution, or has served as a reviewer of a study which has been indexed in a domestic or international journal within the last three years.

Article 9 (Responsibility and Duty of Peer Reviewers)

- a. Peer reviewers should evaluate papers and report the results of the evaluation to the committee within the time period set by the committee. However, if he/she believes that they are not appropriately qualified to review the paper, they should notify the committee without delay.
- b. Peer reviewers should respect the author's person and independence as a scholar. Peer reviewers may request for revision of the paper with detailed explanations if needed in the evaluation of the research paper.

- c. Papers are reviewed confidentially using a method in which the name and affiliation of the author is confidential to the public. Showing the paper and/or discussing the contents of the paper with a third party is not desirable unless a consultation is needed for purposes of review.

Article 10 (Unethical Behavior in the Review Process)

- a. Peer reviewers must not manipulate either directly or indirectly the related research-specific information contained in the research proposal or review process without the consent of the original author.
- b. Peer reviewers must be careful of the following since it could be regarded as unethical research practices in the review process:
 - i. The act of handing over a requested paper to students or a third party
 - ii. The act of discussing the details of a paper with colleagues
 - iii. The act of obtaining a copy of the requested material without shredding it after review
 - iv. The act of disgracing the honor of others or fabricating a personal attack in the review process
 - v. The act of reviewing and evaluating a research paper without reading it

Article 11 (Personal and Intellectual Conflict)

- a. Peer reviewers must fairly evaluate using an objective standard regardless of personal academic conviction.
- b. Peer reviewers must avoid personal prejudice when reviewing a paper. If there is a conflict of interest including personal conflict, it must be notified to the committee.
- c. Peer reviewers must not propose rejecting a paper due to a conflict in interpretation or with the point of view of the reviewer.

Chapter 4. Principle and Process of Paper Review

Article 12 (Papers for Peer-review)

Review shall proceed based on the writing and submission guidelines. If the submitted paper substantially diverges from the writing and submission guidelines, the paper may not be reviewed.

Article 13 (Request for Review and Review Fee)

- a. The chief editor discusses the selection of reviewers with editorial members and selects two reviewers for each paper after submitted papers pass the eligibility test.
- b. The chief editor immediately requests the two selected reviewers to review the relevant submitted paper.
- c. Papers are reviewed by confidential method in which the name and affiliation of the author is confidential to the reviewer, the name of the reviewer is confidential to the author.
- d. The chief editor requests a review after deleting the name and the affiliation of the author from the submitted paper, so that the reviewer cannot obtain the identity of the author.
- e. A review fee shall be paid to the reviewer.

Article 14 (Review of Paper and Decision)

- a. Reviewers shall submit a decision report via the JAARS's online submission system (<http://www.nlbaeai.org/>) and Email: edubscon@outlook.com within two weeks after they are asked to review a paper.

- b. The reviewer shall decide whether the paper should be published based on the following standard. However, if the paper receives less than 30 points in the suitability and creativity of the topic, it will not be published.
- The suitability of the topic (20 points)
 - The creativity of the topic (20 points)
 - The validity of the research analysis (20 points)
 - The organization and logic development of the paper (20 points)
 - The contribution of the result (10 points)
 - The expression of the sentence and the requirement of editing (10 points)
- The reviewer must give one of the following four possible marks within the two week period: A (90~100 points, acceptance), B (80~89 points, acceptance after minor revisions), C (70~79 points, re-review after revision), F (Rejection), and write an overall review comment concerning the revision and supplementation of the paper.
- c. In an instance where the reviewer does not finish the review within the two week period, the chief editor can nominate a new reviewer.

Article 15 (Correction of Papers according to the Editing Guideline)

- a. Before holding an editorial committee meeting, the chief editor shall request editorial staff correct those papers that receive “acceptance” or “acceptance after minor revisions”, using the journal's paper editing guidelines. However, if there is a paper that receives “acceptance” after the editorial committee meeting, the chief editor will request the editorial staff to correct the paper after the meeting.
- b. The chief editor shall notify each author of the result of his or her paper review after receiving the corrected version of the paper from the editorial staff. However, papers which receive a “rejection” shall not be notified of their result.

Article 16 (Decision of Paper and Principle of Editing)

- a. The chief editor shall call an editorial board meeting and make publication decisions after receiving finished papers from reviewers.
- b. The editorial board will make decisions to publish based on the following chart. The editorial board should respect

Results of 2 peer-reviews	Overall evaluation(average)	Decision to publish
AA	A	Acceptance
AB, AC, BB	B	Acceptance after minor revisions
AD, BC, BD, CC	C	Re-evaluation after revision
CD, DD	F	Rejection

reviewers' decisions on relevant papers, but can make decisions based on the editorial policy of the JAARS.

- c. The paper that is awarded “acceptance” should receive a “B” or higher from reviewers or the level of overall evaluation (average) should be “B” or higher, and the paper that is awarded “acceptance after minor revisions” should have its satisfactory revisions and/or developments confirmed by the initial reviewer after re-submission.
- d. The editorial board shall confirm that papers in consideration for publication are suitable to the writing and submission guideline of JAARS, look through detailed matters, and decide particular issue policies such as the number of papers and the order of them.

e. In the case where a paper was presented or submitted for review previously, it cannot be published in JAARS.

f. In the case where an author submits two or more papers for consideration, only one paper that receives “acceptance” shall be published in the same issue.

Article 17 (Notification of the Result)

a. The chief editor shall notify an author of the review result after the initial evaluation or re-evaluation is finished, but can request the author to revise and develop the paper based on the evaluation report. If the editorial board makes a final decision on publication, the author should be notified.

b. The author must be notified of the review result within one month from the day of receiving the paper or revised paper (or the deadline of submission). If it is impossible to notify the author within one month, the reason and the due date of notification must be notified to the author.

c. Unless there is a specific reason, the author must submit a file including a response to the evaluation report, revision to and/or development of the paper to the chief editor after editing the paper within the period the editorial board suggests when he/she is asked to edit the paper. The changed details must be confirmed by the editorial board as well. In case the author does not submit the revision and development to the editorial board within the period, it shall be automatically postponed until this process is finished.

d. A paper that receives a “C” in the overall evaluation (average) shall be re-evaluated after the chief editor sends the revised article and revision report to the initial reviewer(s).

e. In cases where the evaluations of the same paper are remarkably different among reviewers, the chief editor can nominate a third reviewer and request a re-evaluation. In this case, the chief editor shall send the evaluation report to three different reviewers and have them submit the final evaluation report based on the details of the paper, and the paper can be published after revision only if the final mark awarded the revised paper is higher than a “B” in the overall evaluation.

f. The chief editor will issue an acceptance letter for the papers confirmed to be published.

Article 18 (Proofreading and Editing)

a. The chief editor shall request domestic/international members to proofread and edit papers confirmed to be published.

b. Proofreading and editing members shall be recommended by the chief editor and appointed by the chairman of NLBA Eurasian Institute.

c. The chief editor shall send the results of proofreading and editing to the original author and request the author to edit the paper appropriately.

d. The author, unless there is a specific reason, must submit the revised paper and revision report to the chief editor after editing the paper within the period the editorial board suggests when he/she is asked to edit the paper. The changed details must be confirmed by the editorial board as well.

e. Even if a paper is confirmed to be published, it will be rejected if it has not fulfilled the editing procedure following the result of proofreading and editing, or has been found to have committed research misconduct of any kind.

f. If an editing member finds plagiarism, inadequate form, or low quality in the process of editing a paper that the journal has confirmed to be published, he/she must notify the chief editor. and can suggest proper responses to the findings. g. The chief editor suggests whether to avoid publication of a paper or have the author re-submit the paper after revision and development according to the guidelines stipulated in Article 5. In the case of a paper requested to be revised and developed, publication can be postponed based on the degree of completion and the schedule of revision and development.

Chapter 5. Editing and Publication

Article 19 (Editing and the Date of Publication)

JAARS is published six times a year in principle. However, if there is a reason such as the number of submitted papers, the committee can increase or decrease the number of issues.

Article 20 (Notification of Editing)

- a. The chief editor shall acquire publication consent from the authors of the confirmed papers before printing.
- b. The chief editor shall report to the chairman of NLBA Eurasian Institute when the editorial process following editorial policy is completed, and shall further follow the outlined process for printing and editing.

Article 21 (Sanction on Plagiarism and Redundant Publication)

If the ethics committee finds that a submitted paper or a published paper contains plagiarism or was published in another journal, the following sanctions will be taken:

- a. Distributing after deleting the relevant paper in the journal if the journal has not been distributed yet,
- b. Notification of paper deletion on the website if the related issue has already been distributed,
- c. Notification of the plagiarism or redundant publication of the relevant paper on the website,
- d. Banning the relevant author from submitting papers to all journals published by JAARS for two years from the date when plagiarism and redundant publication is found and from presenting in conference,
- e. Notifying the author's affiliated organization or institution of the fact of the plagiarism or the redundant publication, if necessary.

Article 22 (Transfer of the Rights of Publication, Duplication, Public Transmission, and Distribution)

- a. The right of publication of the paper is owned by NLBA Eurasian Institute unless specified.
- b. The author(s) shall transfer the right of duplication, public transmission, and publication to NLBA Eurasian Institute. If they do not agree, the relevant paper cannot be published in JAARS.

Article 23 (Notification of Paper on Homepage)

Papers published in JAARS shall be publicly notified on the JAARS homepage (<http://www.nlbaei.org/>)

Article 24 (Etc.)

The matters that are not decided in these rules are either subject to the submission guidelines or decided by the editorial board.

Article 25 (Date of Effectiveness)

These regulations shall be effective as of January 1, 2024.

Author's Check List

Journal of Advanced Academic Research and Economics (JAARS)

Title of Manuscript: _____

Manuscript ID: _____

Please check ☒ to confirm fulfillment of instructions below before submitting your manuscript.

1.General guidelines

- ☐ The submission contains an original manuscript, a checklist, and a copyright transfer agreement.
- ☐ The manuscript follows the journal template, using MS Word.
- ☐ The manuscript consists of a title page, abstract, keywords, JEL Classifications, acknowledgement (if any), main text, references, appendix (if any), tables and figures.
- ☐ The pages are numbered consecutively beginning with the title page.

2.Title page

- ☐ The manuscript consists of title, author(s)name(s), and affiliation(s).
- ☐ The lower area of the title page includes the name(s)of the author(s)and e-mail of the corresponding author only.

3.Abstract, Keywords and JEL classifications

- ☐ The Abstract is less than 250 words for an original article.
- ☐ Includes no more than six keywords.
- ☐ Includes no more than five JEL classifications.

4.Main text

- ☐ Subtitles are ordered according to the journal template.
- ☐ All figures and tables are cited in numerical order as they are first mentioned in the text.
- ☐ All figures and tables are referenced within the text.

5.Tables and figures

- ☐ The titles of figures and tables are set flush left above them, capitalizing the first letter of each word in these titles except for prepositions and articles.
- ☐ Vertical lines are avoided in tables.
- ☐ Pictures or photos are supplied in high resolution (minimum 300 dpi) .
- ☐ Pictures or photos are supplied at a reasonably legible size for printing if they may be affected by resizing in the printing process.

6.References

- ☐ References follow KITRI style.
- ☐ Each entry in the reference list is cited in the main text.
- ☐ All references are listed in alphabetical order followed by the year published.
- ☐ The title of books and journals is expressed in italics.
- ☐ Complete references are included with the full title of the article and up to six author names. Where there are seven or more authors,they are identified as “et al.”
- ☐ Journal articles have been double-checked as to whether the author name, (published year), title, journal name, volume (issue number) and pages are correct.
- ☐ Books have been double-checked as to whether the author name, (published year), title of book (editions, if any), place of publication, publisher's name, and pages are correct.

Copyright Transfer Agreement

NLBA Eurasian Institute

Title of Manuscript:

All Authors:

All authors of this manuscript must agree to the following:

- 1.All authors certify that the manuscript does not violate any copyright and confirm its originality.
- 2.All authors have made an actual and intellectual contribution to this manuscript and hold responsibility for its contents.
- 3.This manuscript has not been published or will not be submitted to another journal for publication.
- 4.The “Journal of Advanced Academic Research and Studies” has rights in legal action against the infringement of copyright of this manuscript without authors’permission.
- 5.All authors of this manuscript confirm the transfer of all copyrights in and relating to the above-named manuscript, in all forms and media, through the world, in all languages, to “Journal of Advanced Academic Research and Studies”.
- 6.If each author's signature does not appear below, the signing author(s)represent that they sign this Agreement as authorized agents for and on behalf of all the manuscript authors, and that this Agreement and authorization is made on behalf of all the authors.

In order for my manuscript to be accepted for publication in the Journal of Advanced Academic Research and Economics (JAARS), I hereby assign and transfer to the NLBA Eurasian Institute all rights, title, and interest in and the copyright in the manuscript, entitled.

Date:

Corresponding Author:

Signature:

*Submission:You must submit a scanned file (file type: jpg, gif, or pdf) of this signed confirmation and final manuscript file (file type:MS Word) online after the manuscript has been accepted for publication.

Call for Papers

Journal of Advanced Academic Research and Economics (JAARS)

The Journal of Advanced Academic Research and Economics (JAARS) is the official publication of the NLBA Eurasian Institute publishes manuscripts of significant interest that contribute to the theoretical and practical basis of business, economics, and international trade studies. JAARS's broad scope and editorial policies create accessible, thought-provoking content for the general academic community of business, economics, and international trade. The goal of JAARS is to publish insightful, innovative and impactful research on business, economics, and international trade. JAARS is multidisciplinary in scope and interdisciplinary in content and methodology.

Subject Coverage

JAARS is an interdisciplinary journal that welcomes submissions from scholars in business, economics, and trade disciplines and from other disciplines (e.g. political science) if the manuscripts fall within the JAARS domain statement. Papers are especially welcome which combine and integrate theories and concepts that are taken from or that can be traced to origins in different disciplines.

JAARS is a methodologically pluralistic journal. Quantitative and qualitative research methodologies are both encouraged, as long as the studies are methodologically rigorous. Conceptual and theory-development papers, empirical hypothesis-testing papers, and case-based studies are all welcome. Mathematical modeling papers are welcome if the modeling is appropriate and the intuition explained carefully.

Notes for Prospective Authors

Submitted papers should not have been previously published nor be currently under consideration for publication elsewhere. All papers are referred through a peer review process.

All manuscripts should follow the submission guidelines on the JAARS homepage (<http://www.nlbaeai.org/>).

JAARS operates an on-line submission system. Manuscripts should be submitted to the on-line submission system at <http://www.nlbaeai.org> following all prompts on the screen.

There is no firm submission deadline for papers and the submitted articles will be evaluated on a rolling basis. Any queries should be sent to the Editor of JAARS at the following address: edubscon@outlook.com

Guidelines for Authors (In Brief)

[Journal of Advanced Academic Research and Studies (JAARS)]

How to submit the paper

The authors submit their manuscripts (in MS Word Format) to the on-line submission system at <http://www.nlbaei.org>

Blind Review Policy

The journal follows double blind peer review policy. The paper is sent to two reviewers appropriately qualified experts in the field selected by the editor to review the paper in the light of journal's guidelines and features of a quality research paper. For papers which require changes, the same reviewers will be used to ensure that the quality of the revised paper is acceptable.

Manuscript Preparation Guidelines

The author(s) must follow the Manuscript Preparation Guidelines in preparing the manuscript before submission.

1. Language

The language of the manuscript must be English (American English, e.g. "color" instead of "colour").

2. Length of Paper

The length of the paper should not exceed 30 pages (Times New Roman, 12 Font) excluding tables, figures, references and appendices (if any). Articles should be typed in double-space (including footnotes and references) on one side of the paper only (preferably Letter size) with 1 inch margin. Authors are urged to write as concisely as possible, but not at the expense of clarity.

3. Title Page

The title page should include: (i) A concise and informative title, (ii) The name(s) of the author(s), (iii) The affiliation(s) and address(es) of the author(s), and (iv) The e-mail address, telephone and fax numbers of the corresponding author.

4. Abstract

Please provide an abstract of 200 to 250 words. The abstract should not contain any undefined

abbreviations or unspecified references. The content of abstract must include Purpose, Design/Methodology/Approach, Findings, and Research Implications.

5. Keywords and JEL Classification Code

Please provide 4 to 6 keywords which can be used for indexing purposes.

6. Acknowledgement

The author may use acknowledgement section in the title page of the paper (if any).

7. Subdivision of the article

Divide your article into clearly defined and numbered sections. Sections should be numbered in Roman numerals (e.g., I, II). Subsections should be numbered using the decimal system (e.g., 1., 1.1., 1.1.1., 1.1.2., 1.2., ..., 2., 2.1.). The abstract is not included in section numbering.

8. Table and Figure

Present tables and figures within the article, not at the end of the article. Please note that the article will be published in black and white (print), although online version will contain the colorful figures (if any). However, the color print will be available in extreme cases as per the request of the author.

9. References

Author(s) should follow the latest edition of KITRI style in referencing. Please visit www.nlbaei.org to learn more about KITRI style.

■ Citations in the text

Please ensure that every reference cited in the text is also present in the reference list (and vice versa).

■ Reference List

References should be arranged first alphabetically and then further sorted chronologically if necessary.

Guidelines for Authors (In Brief)

[Journal of Advanced Academic Research and Studies (JAARS)]

■ Examples:

Reference to a journal publication:

Wegener, D. T., J. F. Dollan and Soon-Hwan Jeon (2015), "Current Trends of Marketing Activities in Parallel Imports", *Journal of Asia Trade and Business*, 11(5), 55-57.

Hyun, Jun-Seog and Won-Joong Kim (2015), "A Study on the Effects of Export-Import Share and Exchange Rate", *Journal of International Trade & Commerce*, 11(1), 142-145. <http://dx.doi.org/10.16980/jitc.11.1.201502.139>

NB: For Oriental authors such as Korean, Chinese and Japanese authors, the first names are spelled out. Names shall be romanized according to their own preference. For Korean authors, the first and second syllables of first names shall be hyphenated.

Reference to a book:

Schmithoff, C. M. (2010), *Letter of Credit*, New York, NY: Pitman Press, 158.

Jeon, Soon-Hwan (2017), *International Trade Practices* (5th ed.), Seoul: Hanol, 156.

Reference to a chapter in an edited book:

Bomhoff, E. J. (1998), "Introduction". In E.

M. Rogers and S. Taylor (Eds.), *The Global Leadership Mindset* (2nd ed.), Oxford, UK: Oxford University Press, 12-25.

Reference to a web source:

Liu, Chengwei (2005), *Price Reduction for Non-conformity: Perspectives from the CISG*. Available from <http://www.cisg.law.pace.edu/cisg/biblio> (accessed January 11, 2016)

Manuscript Review Timeframe

Manuscripts will be initially reviewed by the Editor within two weeks from submission.

The Editor will contact the corresponding author with news of whether or not the submission will be advanced to the first round of blind reviews (or is being rejected as not suitable for publication in the journal).

Typically, the blind review process takes approximately six to eight weeks.

The JAARS does not process any submission that does not comply with complete requirements of submission guidelines.

Contributors of articles accepted for publication will receive a complimentary copy of the issue in which their article appears.

JAARS



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