Research on the CID Training Model for Rural Practitioners in County-level Characteristic Industries: Taking Luyi, Henan Province, the "Hometown of Makeup Brushes in China," as an Example

Youyu Zhang*, Xinru Han, Baisong Chen, Junhong Xu, Ge Wen

School of Management, Chengdu University of Information Technology, Chengdu, 610103, China

*Youyu Zhang (205187532@qq.com), Xinru Han (1467167657@qq.com), Baisong Chen (545921973@qq.com), Junhong Xu (873099744@qq.com), Ge Wen (8829177@qq.com)

Abstract. Rural revitalization and county-level economic development rely heavily on the driving force of local characteristic industrial clusters. However, transitioning these sectors up the value chain necessitates a technically skilled workforce. Focusing on Luyi County, Henan Province—nationally recognized as "China's Makeup Brush Hometown"—this study investigates the critical training deficits constraining rural labor upgrading. The empirical analysis reveals that conventional training programs suffer from supply-demand misalignment, limited grassroots reach, and poor knowledge conversion. To address these structural bottlenecks, this paper integrates industrial resource theory, human capital theory, and innovation diffusion to construct the CID (Cluster-Individualized-Diffusion) training model. This model not only provides an actionable pathway for workforce capability enhancement within Luyi County but also offers a scalable, empirical framework for upskilling rural labor in similar specialized economies across China.

Keywords: county-level characteristic industrial resources; makeup brush industry; rural practitioners; CID training model; rural talent revitalization

1 Introduction

Luyi County, widely known as the "hometown of Chinese makeup brushes," has developed its makeup brush industry for more than 40 years and formed a complete industrial chain covering tail-hair procurement, fine processing, finished-product manufacturing, e-commerce sales, and foreign-trade export. It is a typical example of a county-level characteristic industry in a traditional agricultural county and a representative case of industrial transformation driving rural employment. By the end of 2023, the county had more than 4,200 business entities related to makeup brushes, with more than 210,000 employees. Among them, rural household-registered practi-

© The Author(s) 2026
Q. Tian et al. (eds.), *Proceedings of the 2026 8th International Conference on Economic Management and Cultural Industry (ICEMCI 2026)*, Advances in Economics, Business and Management Research 401,
https://doi.org/10.2991/978-94-6239-777-4_6

tioners accounted for 83.7%, and employment in related supporting industries reached 120,000, making the industry a core driver of local income growth.[1][2]

However, as the industry shifts from primary processing to high-end processing and full-chain development, the shortage of skilled labor and the generally low level of professional literacy have become increasingly prominent. The existing training system is seriously mismatched with industrial development needs and practitioner characteristics, making it a key talent bottleneck in industrial transformation and upgrading.[4][5] In response, this study focuses on the training needs of rural practitioners in Luyi County's makeup brush industry and aims to improve their professional capabilities. By sorting out industry characteristics and training pain points on the basis of collected data, the paper proposes a CID training model grounded in relevant theories to provide practical support for rural talent revitalization and the development of county-level characteristic industries.[6][7]

2 Industry Characteristics and Current Problems

2.1 The Core Characteristics of the Industry and Practitioners

Luyi County is a large traditional agricultural county. Its makeup brush industry has formed a resource-oriented development pattern featuring county-wide coverage and a whole-chain layout. With the rural left-behind labor force as the main body, it shows characteristics distinct from urban manufacturing and service industries and represents a typical labor-intensive county industry in China.[8][9] Its core features are as follows:

The Luyi County makeup brush industry has formed an industrial structure consisting of leading enterprises, small and medium-sized workshops, and family workshops. It includes more than 10 leading enterprises with brand research-and-development and foreign-trade export capabilities, about 100 small and medium-sized factories engaged in finished-product processing, and nearly 3,000 family workshops primarily engaged in primary processing and scattered throughout the county. Across 26 townships, a distribution pattern has emerged in which there are parks in the county, factories in the townships, and workshops in the villages.[3][10]

Second, rural left-behind laborers constitute the main body of industrial personnel, and their composition is complex. Data show that rural household-registered workers account for 83.7% of the labor force, of whom 76.5% are women, with the core age group concentrated between 30 and 50 years. In terms of identity composition, households lifted out of poverty and monitored households account for 18.2%, part-time workers account for 42.6%, and returned migrant workers account for 21.3%. The personnel structure is therefore highly diverse and differentiated.[5][11] As shown in Table 1.

Third, the general education level is low, while demand for skills is high. Workers with a junior high school education or below account for 77.4%, including 22.1% with only primary school education and 6.9% who are illiterate or semi-literate; only 4.2% have a junior college education or above.[12] Corresponding skill requirements are layered: home-workshop operators focus on fine processing technology and quali-

ty-control standards; small and medium-sized workshop operators focus on equipment operation and production management; e-commerce operators need livestreaming operation and supply-chain management abilities; and leading enterprises focus on product design, brand building, and foreign-trade rules. The differences among groups are substantial.[1][6]

Table 1. Structural characteristics of employees in the cosmetics brush industry in Luyi County.

Category	Proportion (%)	Male (%)	Female (%)
Rural household-registered workers	83.7%	83.7%	83.7%
Part-time farming and breeding workers	42.6%	42.6%	42.6%
Returned migrant workers	21.3%	21.3%	21.3%
Households lifted out of poverty / monitored households	18.2%	18.2%	18.2%
Other personnel	17.9%	17.9%	17.9%

Note. Percentages indicate share within the respective category. Data are based on a local industry report (2024).

Fourth, employment is flexible and scattered, making centralized training costly. More than 60% of employees work at village-level sites, most through home-based employment, using fragmented time to complete orders. Because employment time is flexibly arranged and workers are widely dispersed, they cannot participate in long-term centralized training at the county level, and the traditional model of "centralized teaching and unified management" performs poorly.[2][7]

2.2 Core Problems in Practitioner Training

There are four main problems in the current training system. First, training organization costs are high, making it difficult to cover most scattered village-level practitioners.[2][3] Second, the low educational level of trainees makes it difficult for them to absorb and transform training content, often leading to a situation where they understand the material in class but cannot apply it afterward, so training effectiveness falls far below expectations.[5][12] Third, training is disconnected from industrial demand, and the mismatch between supply and demand is prominent. In a survey of 32 business entities, 87.5% stated that existing training did not match actual needs, and more than 70% of industry insiders believed that the correlation between training and daily production was low.[1][9] Fourth, training coverage is narrow and there is a lack of sustained outcomes. Most grassroots practitioners have never received systematic professional training,[5][7] making it difficult to drive overall skill improvement.[4][6]

3 Design of the CID Training Model

3.1 The Core Connotation of the CID Training Model

In view of the pain points and practical difficulties of makeup brush training in Luyi County, this paper integrates industrial resource theory, human capital theory, and innovation diffusion theory to design the CID (Cluster-Individualized-Diffusion) industrial training model. The model consists of three modules: an industrial cluster-oriented shared training platform (C module), personnel-based precision practical training (I module), and industrial-chain diffusion training (D module), thereby forming a closed-loop training system for the whole chain.[11][12] As shown in Figure 1.

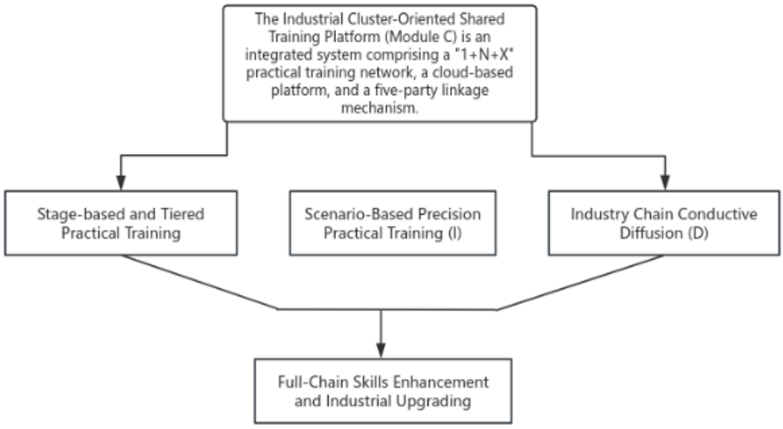


Fig. 1. Framework of the CID training model.

3.2 The Three Core Modules of the CID Training Model

3.2.1 Resource-Oriented Shared Training Platform (C Module).

As the basic support of the CID model, the shared training platform builds a five-party linkage system of "government + industry associations + leading enterprises + vocational colleges + practitioners" to achieve accurate matching between the supply and demand of training resources across the county.[2][8] The platform has both online and offline interfaces: the online interface builds a WeChat mini-program and connects with the county public service center; the offline interface establishes a "1+N+X" three-level practical training network, relying on local excellent workshops to provide "practical training at home."[6][9] The platform establishes a five-party linkage operation mechanism to form a virtuous cycle of training.[1][2]

3.2.2 Enhanced Precision Training (I Module).

Designed on the basis of precision-management principles, the precision training module is the core of the CID training model. Based on the differentiated needs of

various links in the industrial chain, an accurate training system is designed for different scenarios of "layered classification, practical leadership, and learning while using."[1][12] Combined with actual industrial conditions, it is divided into four systems: a village-level basic practical training layer, a factory advanced practical training layer, an e-commerce special practical training layer, and a leading-enterprise promotion practical training layer, so as to achieve full coverage of the needs of the whole industrial chain.[4][6][9]

3.2.3 Diffusion Training Driven by Industrial Chain Diffusion (D Module).

The diffusion training module, designed on the basis of diffusion-communication principles, can realize the large-scale diffusion and transformation of training results.[5][7] It mainly includes the selection and cultivation of "industrial-chain diffusion incentivists," the construction of a whole-chain teaching system, and the establishment of an incentive mechanism for diffusion training. At the same time, the online platform uploads teaching videos synchronously to further expand training coverage.[4][6]

3.3 The Promotion Value of the CID Training Model

The CID training model has strong broader applicability. First, it effectively addresses the training of dispersed industrial personnel.[6][7] Second, it responds accurately to the dilemma of mismatched training supply and demand.[11][12] Third, it improves the conversion efficiency of training among low-education groups.[2][8] Fourth, it supports the large-scale transformation of training results and drives overall skill upgrading across the industrial chain.[4]

4 Conclusion

Rural industrial clusters present unique human capital challenges. The CID model confronts these through a highly pragmatic architecture. It structurally reorganizes resource allocation, instructional methods, and knowledge diffusion to sustain skill development among dispersed, low-education workers. Early applications in Luyi County confirm its operational viability on the production line.

The significance of this research lies in its empirical foundation. China’s specialized rural economies urgently require evidence-tested capacity-building strategies rather than generic training templates [5][6]. The CID framework resolves immediate operational mismatches, yet peer-to-peer transmission pathways remain a complex variable. Future investigations should isolate and optimize these informal diffusion dynamics. Refining this specific mechanism is critical. It determines whether initial labor upgrades can actually fuel long-term, high-quality economic development across rural counties [7].

References

1. Zhou Bin, Liu Zhi, Miao Yumeng. Research on the practical path of high-quality development of county characteristic industrial clusters [J].Agriculture and Technology, 2025, 45(01): 159-164.DOI:10.19754/j.nyyjs.20250115031.
2. Cui Jiexuan, Wang Meng. Analysis of the development path and mechanism of vocational education in counties in Hebei Province from the perspective of rural revitalization [J]. Modern Vocational Education, 2023, (07): 1-4. Retrieved from CNKI: https://kns.cnki.net/kcms2/article/abstract?v=H26UkN0bSyS41lh4c7DsTFYy8SHIcfVFkQBJ00PlLz2penR0e-tM8rJjXueKnnD__61jOLA_4ykjWLVRj6I-qMMHAHw3sG53wy2tnxcIwwiatn6ctrdli_rntXXNFJsiwEsE7OvsQ2ONgjID48sohQwJ3T35lCbAuFF57mw-R34=&uniplatform=NZKPT.
3. Ren Guocui, Zhang Nan. Agricultural industrialization talent training strategy of agricultural colleges and universities under the background of rural revitalization: Taking the agricultural industrialization management of Daqing City as an example [J]. Talent Resource Development, 2021, (14): 15-16. DOI:10.19424/j.cnki.41-1372/d.2021.14.007.
4. Tan Yuexia, Song Yuanliang. The research on the development of the pillar industry of rural revitalization: Taking the tail hair industry in Luyi County, Henan Province as an example [J]. Contemporary County Economy, 2021, (04): 60-62. DOI:10.16625/j.cnki.51-1752/f.2021.04.017.
5. Zhai Wenhao, Ma Ling. Promoting the employment of migrant workers in the county: evolution process, value connotation and real dilemma [J/OL]. Journal of China Agricultural University (Social Science Edition), 1-20[2026-04-19]. https://doi.org/10.13240/j.cnki.caujsse.20260407.009.
6. Jia Nan, Chen Xinyuan, Yu Chuanjiang. Leaving home without leaving home: Digital rural development in the county and flexible employment of new local business forms - analysis based on employment selection and employment quality [J]. Journal of China Agricultural University (Social Science Edition), 2025, 42(06): 45-71. DOI:10.13240/j.cnki.caujsse.20251223.003.
7. Li Hao, Yang Meng. Analysis of the path of promoting high-quality employment of rural labor during the 15th Five-Year Plan [J]. Chongqing Social Science, 2025, (08): 40-56. DOI:10.19631/j.cnki.css.2025.008.003.
8. Zhou Yahong, Xiao Xinyue, Yang Lan. Rural digital transformation, employment opportunity selection and farmers' income increase [J]. Social Science, 2025, (03): 120-132.DOI:10.13644/j.cnki.cn31-1112.2025.03.010.
9. Torm, N. Training returns among informal workers: evidence from urban sites in Kenya and Tanzania [J]. The European Journal of Development Research, 2024, 36(6): 1593-1615. DOI: 10.1057/s41287-024-00652-x.
10. Chen, Z., Barcus, H. R. The rise of home-returning women's entrepreneurship in China's rural development: producing the enterprising self through empowerment, cooperation, and networking [J]. Journal of Rural Studies, 2024, 105: 103156. DOI: 10.1016/j.jrurstud.2023.103156.
11. Gupta, S. L., Mittal, A., Singh, S., et al. Demand-driven approach of vocational education and training (VET) and experiential learning: a thematic analysis through systematic literature review (SLR) [J]. Asian Education and Development Studies, 2024, 13(1): 45-63. DOI: 10.1108/AEDS-07-2023-0083.
12. Chen Q ,Li X .Vocational education investment and middle-income group expansion in China[J].Finance Research Letters,2025,76107025-107025. DOI:10.1016/J.FRL.2025.107025.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (http://creativecommons.org/licenses/by-nc/4.0/), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

