Scholar Publishing Group
International Journal of Social Sciences and Economic Management
https://doi.org/ 10.38007/IJSSEM.2026.070204
ISSN 2789-715X Vol. 7, Issue 2:38-45

Optimization of Operation Mechanisms of Law Enforcement and Case Handling Management Centers from the Perspective of New Quality Combat Effectiveness of Public Security Organs

Na Zhao

Sichuan Police College, Luzhou 646000, Sichuan, China

Keywords: New Quality Combat Effectiveness of Public Security Organs; Law Enforcement and Case Handling Management Center; "Specialization + Mechanism + Big Data"; Operation Mechanism; Grounded Theory

Abstract: As core grassroots platforms embodying the "Specialization + Mechanism + Big Data" policing model, Law Enforcement and Case Handling Management Centers (LECHMCs) directly shape the generation efficiency of new public security combat effectiveness. This study adopts grounded theory, multi-case analysis and cross-national comparison as mixed qualitative approaches. Through three-stage coding of interview transcripts, field notes and institutional documents, 12 operational categories and the core construct of three-dimensional coordination are extracted, forming an interpretive model for LECHMC operational efficiency. Global police reforms featuring centralized, intelligent custody management deliver critical references for domestic practice. Empirical investigation of three representative domestic centers reveals pervasive structural defects including weak cross-police synergy, fragmented data infrastructure and incomplete legal supporting systems. Most local LECHMCs are confined to the efficiency-focused 1.0 Era lacking multi-dimensional systematic coordination. This paper puts forward a four-dimensional optimization framework centered on three-dimensional institutional reconstruction, facilitating LECHMC transformation to the balanced 2.0 Era that integrates efficiency and procedural justice, and provides replicable governance strategies for public security authorities nationwide.

1. Introduction

1.1 Research Background

New quality combat effectiveness has become the core policy agenda driving China's public security modernization. The 2025 National Forum of Public Security Directors formally launched the National Project for Enhancing New Quality Combat Effectiveness, prioritizing the construction of the integrated policing framework of "Specialization + Mechanism + Big Data" [1]. The theoretical system of new quality public security combat effectiveness derives from the theory of

new quality productive forces, covering police workforce, technical equipment, resource allocation and institutional innovation as core constituent elements, with data-driven collaboration and proactive risk response as its core operational traits [2].

Official data released by the Ministry of Public Security in November 2025 indicated that 3,266 LECHMCs have been fully deployed across all municipal and county-level public security organs nationwide. As unified venues integrating interrogation, detention, evidence collection and real-time law enforcement supervision, LECHMCs act as the tangible carrier of the new policing paradigm at grassroots law enforcement scenarios. Nevertheless, field surveys across multiple regions expose prominent operational bottlenecks: most centers only realize superficial spatial concentration of police teams without standardized long-term coordination mechanisms; intelligent hardware deployment is disconnected from frontline investigative demands; unified top-level legal norms governing center operation remain absent. Such practical dilemmas necessitate systematic theoretical deconstruction under the analytical lens of new quality combat effectiveness.

1.2 Literature Review

1.2.1 Domestic Academic Progress

Existing domestic research falls into two independent research streams with insufficient cross-domain dialogue. The first stream focuses on macro theoretical interpretation of new quality combat effectiveness. Scholars elaborate its Marxist theoretical origins, core attributes and three-tier generation pathways, yet few embed this macro framework into micro grassroots law enforcement scenarios [1][3]. The second stream concentrates on LECHMC standardized construction, mostly adopting normative analytical methods to summarize superficial management measures, while lacking empirical qualitative analysis based on first-hand field data [4][5]. Rare studies adopt grounded theory to extract internal logical relations of center operation, resulting in a notable research gap at the intersection of new quality combat effectiveness and LECHMC institutional optimization.

1.2.2 Overseas Relevant Research

Overseas analogous police facilities include U.S. Real-Time Crime Centers (RTCCs) and European standardized centralized detention venues. U.S. quasi-experimental evaluations confirm that multi-source data fusion within RTCCs significantly boosts crime clearance rates, yet raises persistent privacy governance challenges brought by mass surveillance data collection[6]. British scholars conducted CCTV-based empirical research on police custody suites, verifying that overemphasis on procedural efficiency impairs detainees' procedural justice rights, delivering critical enlightenment for balancing efficiency and human rights protection in domestic LECHMC design [7]. The European Committee for the Prevention of Torture (CPT) issued unified management benchmarks for centralized detention, but foreign research lacks a tripartite theoretical framework equivalent to China's "Specialization + Mechanism + Big Data", failing to provide systematic reform schemes adaptable to China's public security institutional context [8].

1.3 Core Research Questions

Two progressive research questions guide this empirical study: First, what deep-seated structural barriers constrain LECHMC operation under the framework of new quality public security combat effectiveness? Second, how can coordinated optimization of specialization, mechanism and big data realize the institutional upgrading of LECHMCs from the 1.0 to the 2.0 Era?

1.4 Research Design and Methodology

This study adopts mutually complementary mixed qualitative methods:

(1) Case study: Three differentiated benchmark LECHMCs (eastern urban district branch, municipal public security bureau, northern prefecture-level bureau) are selected for in-depth field investigation to capture diversified practical models.

(2) Comparative analysis: Horizontal contrast of domestic LECHMC practices and vertical benchmarking with overseas intelligence and custody facilities to distinguish universal reform rules and localized adaptive adjustments.

(3) Grounded theory: Following the constant comparison principle, three-stage open, axial and selective coding is conducted on 28 semi-structured interview transcripts, 30,000-word participant observation notes and institutional archives to induct theoretical constructs from empirical materials.

2. Theoretical Connotation and Analytical Framework of New Quality Combat Effectiveness

2.1 Core Connotation and Generative Logic

New quality public security combat effectiveness refers to the comprehensive capacity of public security organs to prevent and resolve diversified social security risks under modern governance conditions. Its theoretical foundation integrates Marxist productivity theory, national governance modernization theory and the transformation theory of principal social contradictions[2]. Its three-tier generative system consists of a macroscopic strategic layer (theory + core elements), a mesoscopic operational layer ("Specialization + Mechanism + Big Data") and a microscopic practical layer (monitoring-early warning-countermeasure closed loop). The tripartite policing framework forms an organic "subject-mode-tool" whole: specialization cultivates professional human resources as operational subjects; mechanism optimizes collaborative allocation of police forces as operational carriers; big data constructs digital infrastructure as operational technical support [3].

2.2 Customized Evaluation System for LECHMC Operation

Drawing on existing five-dimensional policing performance assessment indicators, this study constructs a targeted evaluation framework adapted to LECHMC operational scenarios, covering five core observation dimensions:

(1) Specialized capacity: Integration of cross-divisional police forces, allocation of compound professional talents and competency training outcomes;

(2) Mechanism operation: Smoothness of cross-procedural links, binding force of supervision systems and efficiency of inter-departmental collaboration;

(3) Big data empowerment: Completeness of multi-source data, standardization of data governance and depth of intelligent technology’s practical application;

(4) Rule-of-law guarantee: Clarity of legal normative basis, full protection of detainees’ procedural justice and accessibility of right remedy channels;

(5) Systematic coordination: Synchronized matching degree of technical equipment, institutional rules and law enforcement personnel capabilities.

3. Cross-National Comparative Analysis of Overseas Police Venue Practices

3.1 European Centralized Custody Reform

The CPT consistently advocates abolishing scattered detention cubicles within grassroots police stations and constructing unified standardized centralized detention facilities with dedicated custody officers and universal procedural norms[8]. This institutional design is highly consistent with China's LECHMC model integrating case handling and detention. The Hong Kong Police Force referenced Singapore, Australian and British custody practices to launch District Detention Facility (DDF) pilots, adopting a "pilot-assessment-full rollout" incremental reform path identical to China's phased LECHMC construction strategy.

3.2 U.S. RTCC Intelligent Intelligence Operation Model

RTCCs widely deployed across American cities integrate urban surveillance, automatic license plate recognition, body-worn camera footage and 911 emergency data on unified intelligence platforms staffed by full-time analysts. Field cases in Providence, San Francisco and Seattle demonstrate that real-time data support drastically shortens emergency response cycles and lifts case clearance efficiency [6]. Nevertheless, large-scale centralized data collection triggers lasting controversies over citizens' privacy infringement, indicating that intelligent construction must be matched with independent external oversight mechanisms.

3.3 British Procedural Justice Empirical Research

UK police launched AI-integrated unified case management systems in 2026 to realize full online circulation of custody, investigation and seized property workflows. A landmark CCTV coding study from the University of Cambridge discovered that longer service tenure of custody officers correlates with reduced willingness to respect and listen to detainees, proving that single-minded pursuit of handling efficiency will severely weaken procedural justice protection[7]. This finding provides critical reference for balancing efficiency and human rights during domestic LECHMC optimization.

3.4 General Enlightenments from International Experience

Four universal reform rules are summarized from overseas institutional practices and academic research: First, functional and spatial centralization represents an irreversible global policing reform trend; second, intelligent digital construction must balance governance efficiency and citizen privacy via standardized external supervision; third, procedural justice for detainees serves as an indispensable core evaluation indicator beyond handling speed; fourth, incremental pilot reforms effectively reduce institutional trial-and-error costs for venue transformation.

4. Grounded Theory Coding and Empirical Analysis of Domestic LECHMCs

4.1 Data Collection and Sample Representation

Data collection spanned July to December 2025. Triangulation is realized through three categories of first-hand empirical materials: semi-structured interviews with 28 center managers, legal officers, frontline investigators and technical staff; continuous 3–5 day on-site participant observation in each sample center; and institutional management documents, law enforcement quality assessment reports. Samples cover economically developed eastern regions, municipalities and northern inland prefecture-level cities, ensuring sufficient representativeness of differentiated practical models.

4.2 Three-Stage Coding Outcomes

(1) Open coding: 186 primitive concepts are extracted from raw empirical materials and consolidated into 47 standardized concepts after synonym merging;

(2) Axial coding: Following the "Condition-Action-Outcome" paradigm, 12 stable main categories are induced, including intensive process operation, inter-police coordination, data connectivity, intelligent empowerment, institutional standardization, effective supervision, technical reliability, personnel professionalism, legal guarantee, practical performance, organizational carrying capacity and external collaboration;

(3) Selective coding: The overarching core construct of three-dimensional coordination is abstracted, based on which the LECHMC operational efficiency generation model is built. Legal guarantee forms the foundational base, the tripartite coordination of specialization, mechanism and big data acts as the core driving force, and shortened case cycles, improved law enforcement quality and higher public satisfaction constitute tangible operational outputs.

Coding data reveals prominent regional heterogeneity: The District Branch of City A achieves a 30% increase in workflow circulation efficiency and sustained 100% disposal accuracy via mature big data infrastructure, yet suffers insufficient organic cross-police collaboration. The Public Security Bureau of City C realizes a 15.62-day reduction in average administrative case closure cycles relying on complete supervision mechanisms, while deep intelligent application remains underdeveloped. Such disparities verify the industry consensus that physical spatial integration is easily accomplished, whereas organic multi-element synergy faces persistent institutional obstacles.

4.3 Reliability and Validity Control

Four rigorous quality control measures secure research credibility: multi-source data triangulation, dual independent coding by two researchers (Kappa consistency coefficient = 0.82), respondent member checking and theoretical saturation testing. Data collection terminates when additional samples fail to generate new conceptual categories, guaranteeing reliable internal validity of coding results.

5. Current Operational Status and Structural Dilemmas of Domestic LECHMCs

5.1 Two Developmental Stages of LECHMC Construction

Domestic LECHMC development is divided into two distinct phases. The 1.0 Era centers on superficial efficiency improvement via full-process video monitoring and streamlined single workflows, without systematic matching of collaborative institutions and digital systems. The emerging 2.0 Era emphasizes integrated coordination of professional forces, institutional rules and big data technologies, alongside comprehensive procedural justice safeguards for detainees. At present, only a minority of economically advanced regions have completed the transition to the 2.0 Era, while most domestic jurisdictions remain confined to the efficiency-oriented 1.0 construction stage. Functionally, LECHMCs have evolved from simple detention rooms into comprehensive integrated hubs for one-stop case handling, synthetic joint operations, intelligent control and full-process oversight [5].

5.2 Three Representative Domestic Practical Models

(1) Trinity intelligent closed-loop model of City A District Branch: Launched in 2025, the model realizes 20-minute full physical examinations for suspects, adopts intelligent robots and digital

chips for seized asset management, and deploys five automated intelligent supervision modules covering background verification, trajectory tracking and abnormal early warning, maintaining zero safety incidents since operation.

(2) Full-quantity dynamic supervision model of City C Public Security Bureau: 72 real-time law enforcement quality indicators are set for whole-process monitoring; 319 scattered grassroots case-handling rooms are decommissioned and upgraded into standardized sub-centers; 2,592 surveillance channels deliver real-time risk alerts, drastically cutting overdue filing and incomplete evidence violations.

(3) Comprehensive synthetic governance model of City D Public Security Bureau: The self-developed law enforcement service platform connects six provincial big data platforms and formulates standardized evidence checklists for 75 criminal and 168 administrative case types. Specialized personnel are assigned to dedicated posts, and all detention-related cases are uniformly processed within the center.

5.4 Four Core Structural Dilemmas

Grounded coding statistics show that negative entries under the inter-police coordination category account for 63.2% of all relevant codes, and 78.6% of frontline investigators report excessive cross-divisional coordination costs. Four deep-seated structural bottlenecks restrict center operation:

(1) Specialization layer: Police forces are merely gathered geographically without long-term incentive and binding collaborative mechanisms, rendering synthetic joint operations superficial formalism;

(2) Mechanism layer: Over-reliance on rigid procedural constraints triggers formalized law enforcement, with insufficient institutional design to protect detainees' procedural justice experience;

(3) Big data layer: Cross-system data barriers remain unbroken, and intelligent hardware procurement is decoupled from frontline investigative practical demands, leading to insufficient multi-source data fusion;

(4) Systematic layer: Unified national top-level legislative norms for LECHMC construction are absent, resulting in fragmented local institutional standards lacking unified guidance [4][9].

6. Four-Dimensional Optimization Paths under New Quality Combat Effectiveness Guidance

Based on the three-dimensional coordination efficiency generation model, this study proposes targeted reform pathways anchored by comprehensive rule-of-law construction.

6.1 Specialization Dimension: Consolidate Professional Human Resource Carriers

Permanent resident police linkage mechanisms within LECHMCs shall be formalized to converge investigative resources to centralized venues. A full-career-cycle training system cultivating interdisciplinary talents proficient in both legal norms and data analysis shall be established. The specialized staffing practice of City D verifies that dedicated professional personnel effectively reduce non-essential administrative burdens for frontline investigators [3].

6.2 Mechanism Dimension: Reengineer Proactive Risk Response Workflows

Policing operation shall shift from passive post-incident disposal to pre-emptive risk early warning. Drawing on City C's indicator supervision experience, a closed-loop regulatory system of

daily scheduling, weekly briefings and monthly case reviews shall be implemented. Institutional design shall balance procedural standardization and substantive justice, embedding detainees' rights guarantee links inspired by British procedural justice research findings [7].

6.3 Big Data Dimension: Deepen Full-Value Exploitation of Policing Data

Cross-police data barriers shall be dismantled to build unified municipal big data infrastructure, replicating City A's five automated intelligent modules while absorbing U.S. RTCC multi-source data integration experience covering emergency calls, license plate recognition and social surveillance footage. Tiered classified data governance and security systems shall be formulated, with public independent evaluation channels established to balance intelligent empowerment and privacy protection [10].

6.4 Systematic Dimension: Realize Coordinated Iteration of Technology, Institutions and Personnel

Reforms shall avoid technological determinism. The deployment of intelligent robots and AR tracking tools must be matched with institutional adjustment and personnel competency upgrading. Internal cross-divisional coordination committees and external liaison bodies with procuratorates shall be set up. Long-cycle continuous training targeting senior custody officers shall be launched to mitigate declining procedural justice awareness, forming a positive iterative cycle among technology, mechanisms and human resources to complete the 1.0-to-2.0 Era transformation.

7. Conclusions and Future Research Agenda

7.1 Core Research Conclusions

This study integrates four complementary qualitative methods and constructs the LECHMC operational efficiency generation model via three-stage grounded coding, extracting the core construct of three-dimensional coordination. Cross-national comparative analysis identifies intensive and intelligent governance as a universal global policing reform trend. Empirical data verifies nationwide full coverage of LECHMCs yet reveals pervasive structural bottlenecks including weak cross-police collaboration, data fragmentation and incomplete legal supporting systems. Targeted four-dimensional optimization pathways are proposed to realize systematic institutional upgrading of LECHMCs guided by new quality combat effectiveness theory.

The theoretical innovations of this research lie in two aspects: First, the core construct of three-dimensional coordination is inducted from first-hand field data, breaking repetitive paraphrasing of policy texts to unpack the internal interactive logic of the "Specialization + Mechanism + Big Data" framework. Second, cross-national comparison distinguishes convergences and divergences between China's LECHMC model and overseas custody and intelligence facilities, laying an analytical foundation for subsequent cross-border policing comparative research.

7.2 Research Limitations and Future Directions

Three inherent limitations exist within this research: First, the coverage of case samples is limited, and quantitative comparative analysis of LECHMCs across administrative tiers and regions requires further deepening; second, long-term tracking quantitative data evaluating optimization effects is unavailable; third, overseas comparative analysis solely relies on secondary literature without field first-hand investigation.

Future research can advance along three trajectories: Adopt entropy weight method and other quantitative tools to conduct systematic quantitative evaluation of LECHMC operational efficiency; expand cross-national field investigations to compare venue operation models under different legal and policing systems; carry out jurisprudence research on the complete supporting legal system of LECHMCs [10]. Driven by the continuous advancement of the national new quality combat effectiveness enhancement project, systematic optimization of LECHMC operation mechanisms will deliver solid legal guarantees and practical support for the modernization of China's public security undertakings.

Acknowledgments

This research was supported by the Research Center Of Sichuan Police Law Enforcement (JCZFYB2306)，Luzhou Key Laboratory of Intelligent Police Training (ZHJX2025YB03), Police Physical Fitness Monitoring and Rehabilitation Research Center (2025B07).

References

[1] *Zhou C M, Jia Z X, Zhu B. Evolution Logic, Connotation Implication and Generation Path of New Quality Public Security Combat Effectiveness[J]. Journal of China People's Police University, 2024, 40(9):71-79.*

[2] *Liu P.Research on New Quality Public Security Combat Effectiveness under the New Policing Operation Model[J]. Journal of Zhejiang Police College, 2024(5):1-11.*

[3] *Zhang D. Practical Strategies for the "Specialization + Mechanism + Big Data" Policing Model[J]. Police Technology, 2025(5):34-37.*

[4] *Wu S Q. Quality and Efficiency Improvement of Public Security LECHMCs[J]. Journal of Liaoning Police College, 2023(4):27-33.*

[5] *Shi Q Z. A Review of Rule-of-Law Practice in LECHMC Construction[J]. Journal of Public Security Studies, 2023, 6(4):88-106.*

[6] *Guerette R T, Przeszlowski K, Mitchell J. Does the Rapid Deployment of Information to Police Improve Crime Solvability? A Quasi-Experimental Impact Evaluation of Real-Time Crime Center (RTCC) Technologies[J]. Justice Quarterly, 2023, 40(7): 1042-1065.*

[7] *Firman C S, Tankebe J. Tracking Procedural Justice in Processing Detainees: Coding Evidence from CCTV Cameras in Three Police Custody Suites[J]. Cambridge Journal of Evidence-Based Policing, 2022, 6: 162-179.*

[8] *Council of Europe. CPT 28th General Report of the European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment[R]. Strasbourg: Council of Europe, 2019.*

[9] *Chen J, Tang J M. Big Data Empowerment Logic of LECHMCs from Dual-Attribute Perspective[J]. Public Security Education, 2024(5):45-49.*

[10] *Ye T. Rule-of-Law Dilemmas of AI-Assisted Policing Decision-Making[J]. Journal of Zhejiang Police College, 2025(6):85-99.*