

# Research on an Indicator System and Capacity-Enhancement Strategies for Public-Opinion Management in University Logistics Based on an Education Community

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## Abstract

University logistics is an important arena for implementing the concept of “three-wide education” and a high-incidence area of campus public opinion risks in the new media environment. Taking the educational community as the core theoretical perspective, this study constructs an indicator system for the integration of public opinion governance and service-oriented education in university logistics, comprising 5 first-level indicators—pre-event prevention, in-event handling, post-event consolidation, support mechanisms, and the effectiveness of educational integration—and 25 second-level indicators. A Delphi survey was conducted through questionnaires with 43 industry experts, and indicator weights were calibrated using the analytic hierarchy process (AHP). Taking N comprehensive university in S Province, China, as a case, 1,985 valid questionnaires from faculty, students, and logistics personnel were collected for an empirical satisfaction assessment. The study finds that the average importance scores of the first-level indicators, in descending order, are pre-event prevention (7.6628), in-event handling (6.4419), support mechanisms (6.0930), post-event consolidation (4.5814), and the effectiveness of educational integration (4.0233). The overall Cronbach’s  $\alpha$  of the faculty and student scale is 0.9712, the KMO value is 0.9708, and Bartlett’s test of sphericity is significant ( $\chi^2=53097.0394$ ,  $df=325$ ,  $p<0.0001$ ). The mean satisfaction scores for the five first-level dimensions are 4.2081, 4.0670, 3.9824, 4.0448, and 4.1083, respectively. Based on the weighted evaluation of the 25 second-level indicators, the overall effectiveness score is 4.0903 points (out of 5). Based on the empirical results, this study constructs a systematic optimization pathway from five dimensions: proactive risk prevention and control, integration of the handling process, institutionalization of long-term mechanisms, support system assurance, and multi-stakeholder co-creation, providing a theoretical reference and practical framework for university logistics to achieve the mutual empowerment of public opinion governance and service-oriented education.

## Full Text

# Research on an Indicator System and Capacity-Enhancement Strategies for Public-Opinion Management in University Logistics Based on an Education Community

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## Abstract

University logistics is an important arena for implementing the concept of “three-wide education” and is also a high-incidence area for campus public-opinion risks in the new-media environment. Taking the education community as the core

theoretical perspective, this study constructs an indicator system for integrating public-opinion governance in university logistics with service-based education, comprising five first-level indicators—pre-event prevention, in-event handling, post-event consolidation, support mechanisms, and effectiveness of education integration—and 25 second-level indicators. A Delphi survey was conducted through questionnaires administered to 43 industry experts, and the weights of the indicators were calibrated using the analytic hierarchy process (AHP). Taking N Comprehensive University in S Province, China, as an example, 1,985 valid questionnaires from teachers, students, and logistics staff were collected to conduct an empirical satisfaction assessment. The study finds that the average importance scores of the first-level indicators, in descending order, are pre-event prevention (7.6628), in-event handling (6.4419), support mechanisms (6.0930), post-event consolidation (4.5814), and effectiveness of education integration (4.0233). The overall Cronbach's  $\alpha$  of the teacher-student scale is 0.9712, the KMO value is 0.9708, and Bartlett's test of sphericity is significant ( $\chi^2 = 53097.0394$ ,  $df=325$ ,  $p<0.0001$ ). The mean satisfaction scores for the five first-level dimensions are 4.2081, 4.0670, 3.9824, 4.0448, and 4.1083, respectively. Based on a weighted evaluation of the 25 second-level indicators, the comprehensive effectiveness score is 4.0903 points out of a full score of 5. Based on the empirical results, this study proceeds from front-loaded risk prevention and control, integration of the handling process,

institutionalization of long-term mechanisms, support-system guarantees, and multi-stakeholder co-creation, thereby constructing a systematic optimization pathway and providing theoretical reference and a practical framework for the bidirectional empowerment of public-opinion governance and service-based education in university logistics.

**Keywords:** educational community; university logistics; public-opinion management; indicator system; analytic hierarchy process; service-based education

## I. Introduction

### 1.1 Research Background and Significance

With the deep penetration of the new media environment, incidents related to university logistics services have become one of the core flashpoints of campus public opinion. Livelihood-related issues closely tied to the immediate interests of faculty and students—such as food safety in canteens, dormitory accommodation management, maintenance-service efficiency, and property-service quality—can very easily ferment rapidly through campus forums and social platforms, forming campus public-opinion incidents. These incidents not only affect campus safety and stability, but also weaken the educational value embedded in logistics services.

The *Implementation Outline for the Quality Improvement Project of Ideological and Political Work in Higher Education Institutions* explicitly incorporates

“service-based education” into the “ten major education” system, requiring university logistics to fully explore educational elements while ensuring basic services, and to implement the fundamental task of “cultivating virtue and nurturing people” throughout the entire service process. The concept of an educational community emphasizes the coordinated participation, shared responsibility, and co-creation of value among “universities, service enterprises, and faculty and students,” providing a theoretical framework and practical direction for resolving the real dilemmas in the public-opinion management of university logistics, namely “solidified control-oriented thinking, weakened educational functions, and insufficient coordination among stakeholders.”

Existing research has mostly focused on public-opinion handling procedures and risk prevention and control mechanisms, with relatively little attention to deeply integrating the full cycle of public-opinion governance with service-based education. There is also a lack of a scientific, implementable quantitative evaluation indicator system that balances governance and control effectiveness with educational value. On this basis, from the core perspective of an education community, this study constructs an indicator system for integrating public-opinion governance in university logistics with service-based education, completes weight calibration and effectiveness evaluation through empirical analysis, and then proposes targeted strategies for capability enhancement.

## 1.2 Literature Review

### 1.2.1 Research on Public-Opinion Management in University Logistics

Academic research on public opinion in university logistics has centered mainly on risk characteristics, prevention and control mechanisms, and response pathways. Yang Yinping and other scholars point out that public-opinion incidents in university logistics are characterized by strong livelihood relevance, rapid outbreak, wide dissemination, and high secondary risk; canteen catering and dormitory management are the two areas with the highest incidence of public opinion.<sup>1</sup> Fang Zengquan and other scholars argue that, in the all-media era, campus public-opinion governance in universities must break away from the model of control by a single department and build a full-cycle, multi-actor collaborative governance system, while universities at present generally suffer from the governance weakness of “emphasizing emergency response while neglecting prevention at the source.”<sup>2</sup> Zhang Ying’s research finds that current prevention and control of public-opinion risks in university logistics commonly face problems such as insufficient monitoring and early-warning capacity, poor cross-departmental coordination, and low participation by teachers and students; therefore, a normalized mechanism for risk screening and early warning must be established.<sup>3</sup> Overall, existing research

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<sup>1</sup> Yang Yinping, Li Yang. The evolutionary logic and governance path of public-opinion risks in university logistics [J]. *Heilongjiang Researches on Higher Edu-*

cation, 2023, 41(06): 50-55.

2 Fang Zengquan, Qi Xuejing. Construction of a campus public-opinion governance system in universities in the all-media era [J]. *Educational Research*, 2020, 41(07): 45-53.

3 Zhang Ying. Construction of a risk prevention and control system for university logistics public opinion in the new media environment [J]. *School Party Building and Ideological Education*, 2021(18): 79-81.

Research has mostly focused on the practical operations of public-opinion control, and has not yet incorporated educational objectives into the full cycle of public-opinion governance.

### 1.2.2 Studies on Education through University Logistics Services

Service-based education is an important component of the university “Three-Whole Education” system. Li Bingyi and other scholars point out that the core connotation of education through university logistics services is to integrate ideological and political education into every link of logistics services, and to realize implicit ideological and political education for students through refined services and positive value guidance.<sup>1</sup> Wang Jing’ s research argues that education through university logistics services currently faces such practical difficulties as “weak awareness of educating students, rigid integration of educational elements, and the absence of long-term mechanisms.” It is therefore necessary to incorporate educational objectives into the entire process of institutional design, process optimization, and personnel training for logistics services.<sup>2</sup> Existing studies have clarified the connotation and value of education through logistics services, but they have not yet deeply integrated it with the key scenario of public-opinion governance, and have failed to achieve bidirectional synchronization between “public-opinion handling” and “educational empowerment.”

### 1.2.3 Studies on the Education Community

Fan Yuejin first proposed the core paradigm of the education community, holding that the education community is an educational model in which multiple actors participate collaboratively. Its core lies in breaking down barriers among actors and realizing shared responsibility and co-creation of value among universities, teachers, students, service entities, and other parties.<sup>3</sup> Liu Hongda and other scholars further point out that the core of constructing a university “Three-Whole Education” community is to clarify the respective

<sup>1</sup>Li Bingyi, Li Dong. Construction of a Long-Term Mechanism for Education through University Logistics Services [J]. *Higher Education Research*, 2015, 36(02): 67-70.

<sup>2</sup>Wang Jing. Practical Difficulties and Path Innovation in Education through University Logistics Services in the New Era [J]. *University Logistics Research*, 2022(03): 51-53.

<sup>3</sup>Fan Yuejin. Education Community: A New Paradigm for Ideological and Political Education in Universities [J]. *Educational Research*, 2017, 38(08): 53-58.

the responsibility of the actors for fostering virtue and cultivating people, build a platform for collaborative participation, and enable students to transform from objects of education into subjects of educative practice<sup>4</sup>. Existing studies have already applied the concept of an education community to such fields as ideological and political education in universities and student management, but they have not yet introduced it into the context of public-opinion governance in university logistics. This is also the core innovation of the present study.

In summary, existing related research mainly involves three directions: public-opinion management in university logistics, education through logistics services, and education communities. First, studies on logistics-related public opinion emphasize such characteristics as its strong connection to people's livelihoods, rapid dissemination, and difficulty of cross-departmental coordination, but most remain at the level of emergency response. Second, studies on education through service emphasize embedding ideological and political education into the service process, but insufficiently discuss the education mechanism in public-opinion scenarios. Third, studies on education communities emphasize the collaboration of multiple actors, yet rarely apply this perspective to the high-frequency, concrete, and perceptible scenario of public-opinion governance in logistics. It can therefore be seen that, at present, public-opinion management in university logistics has not yet constructed an indicator system that is based on the perspective of an education community, covers the full cycle of public-opinion governance – “prevention–response–consolidation–support” –and takes into account both governance effectiveness and educational value. This is precisely the core entry point and innovation of this study.

### 1.3 Research Approach and Methods

This study follows the logical sequence of “theoretical construction–indicator design–empirical analysis–strategy proposal.” It mainly adopts the literature research method, Delphi method, analytic hierarchy process (AHP), questionnaire survey method, statistical analysis method, and mixed research method. The research process includes: constructing a theoretical framework, designing questionnaires for experts as well as teachers and students, and, based on expert ranking and scoring, completing

Weighting is performed; based on teacher–student satisfaction data, reliability and validity tests, descriptive statistics, IPA analysis, and weighted evaluation of secondary indicators are carried out, on which basis optimization pathways are proposed.

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<sup>4</sup>Liu Hongda, Ma Huahua. The Constructive Logic of the “Three-Wide Education” Community in Universities in the New Era [J]. *School Party Building and Ideological Education*, 2020(01):14–17.

## II. Construction of an Indicator System for Integrating University Logistics Public-Opinion Governance with Service-Based Education

### 2.1 Framework and Core Connotations of the Indicator System

The indicator system ultimately constructed in this study contains **5** first-level indicators and **25** second-level indicators. The first-level indicators are: pre-event prevention, in-process handling, post-event consolidation, support mechanisms, and the effectiveness of education integration. The second-level indicators are organized around risk screening, monitoring and early warning, rapid response, response to demands, standardized handling, collaborative linkage, review and optimization, institutional support, technical support, and educational effectiveness, covering the full process of integrating university logistics public-opinion governance with service-based education.

Table 5. Framework of the Indicator System for Integrating University Logistics Public-Opinion Governance with Service-Based Education

| First-level indicator      | Core connotation                                                                                                                       | Second-level indicators<br>(5 items)                                                                                            |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| A Pre-event Prevention     | Risk screening, early warning, and publicity are placed in advance for prevention, while educational orientation is incorporated.      | A1 Risk screening; A2 Publicity and guidance; A3 Monitoring and early warning; A4 Personnel training; A5 Student participation  |
| B In-process Handling      | Rapidly respond to demands, standardize handling procedures, coordinate through linkage, and embed education.                          | B1 Rapid response; B2 Response to demands; B3 Process execution; B4 Collaborative linkage; B5 Educational embedding             |
| C Post-event Consolidation | Review and optimize services, improve mechanisms, upgrade prevention and control, and consolidate governance and educational outcomes. | C1 Case review; C2 Service optimization; C3 Mechanism improvement; C4 Secondary prevention and control; C5 Upgrading of methods |
| D Support Mechanisms       | Provide supporting conditions in organization, institutions, personnel, funding, technology, and related areas.                        | D1 Organization; D2 Institutions; D3 Teams; D4 Funding; D5 Technology                                                           |

| First-level indicator                       | Core connotation                                                                                                                   | Second-level indicators<br>(5 items)                                                                                                            |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| E Effectiveness of<br>Education Integration | Reflect comprehensive<br>outcomes such as<br>student growth, service<br>optimization, and<br>improvement of the<br>campus ecology. | E1 Awareness of rules;<br>E2 Responsibility and<br>commitment; E3 Service<br>optimization; E4<br>Educational ecology; E5<br>Long-term mechanism |

## 2.2 Research Data and Sample Profile

A total of 43 valid expert-questionnaire samples were collected, covering such fields as university logistics management, public-opinion management and communication, research on talent cultivation in higher education, public administration, and university student affairs. The distributions of different professional titles/positions and years of work experience were relatively balanced, meeting the sample requirements of the Delphi method and AHP.

Table 2 Expert-questionnaire sample profile (N=43)

| Sample Dimension               | Category                                                   | Sample Size<br>(Percentage) |
|--------------------------------|------------------------------------------------------------|-----------------------------|
| Research/Work Field            | University logistics management                            | 24 (55.8140%)               |
| Research/Work Field            | Research on talent cultivation in higher education         | 7 (16.2791%)                |
| Research/Work Field            | University student affairs<br>(talent-cultivation related) | 4 (9.3023%)                 |
| Research/Work Field            | Public administration                                      | 3 (6.9767%)                 |
| Research/Work Field            | Other                                                      | 5 (11.6279%)                |
| Professional<br>Title/Position | University logistics management personnel                  | 13 (30.2326%)               |
| Professional<br>Title/Position | Intermediate professional title                            | 11 (25.5814%)               |
| Professional<br>Title/Position | Associate professor/associate research fellow              | 3 (6.9767%)                 |
| Professional<br>Title/Position | Professor/research fellow                                  | 2 (4.6512%)                 |



| Sample Dimension                     | Category                                              | Sample Size<br>(Percentage) |
|--------------------------------------|-------------------------------------------------------|-----------------------------|
| Professional<br>Title/Position       | University<br>student-affairs<br>management personnel | 2 (4.6512%)                 |
| Professional<br>Title/Position       | Other                                                 | 12 (27.9070%)               |
| Years of Work/Research<br>Experience | 5 years or less                                       | 11 (25.5814%)               |
| Years of Work/Research<br>Experience | 6-10 years                                            | 11 (25.5814%)               |
| Years of Work/Research<br>Experience | 11-20 years                                           | 10 (23.2558%)               |
| Years of Work/Research<br>Experience | 21 years or more                                      | 11 (25.5814%)               |

The expert-questionnaire return rate was 100%, and the valid-response rate was 100%. All experts completed the ranking of the first- and second-level indicators. For some indicators that were ranked but not scored, the missing scores were supplemented using the median value of the corresponding scoring interval before inclusion in the analysis, thereby ensuring the stability of the indicator-weight calculation.

Table 3 Sample Profile of the Faculty-and-Student Satisfaction Questionnaire (N=1985)

| Sample Dimension      | Category                                                                        | Sample Size<br>(Percentage) |
|-----------------------|---------------------------------------------------------------------------------|-----------------------------|
| Identity type         | Enrolled students<br>(undergraduates/master's<br>students/doctoral<br>students) | 1755 (88.4131%)             |
| Identity type         | Non-logistics staff (fac-<br>ulty/administrative/retired<br>personnel)          | 125 (6.2972%)               |
| Identity type         | Logistics department<br>staff                                                   | 80 (4.0302%)                |
| Identity type         | Logistics service<br>enterprise staff                                           | 25 (1.2594%)                |
| Student year (n=1755) | First-year<br>undergraduate                                                     | 595 (33.9031%)              |
| Student year (n=1755) | Second-year<br>undergraduate                                                    | 210 (11.9658%)              |

| Sample Dimension                                   | Category                                                                                                            | Sample Size<br>(Percentage) |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------|
| Student year (n=1755)                              | Third-year undergraduate                                                                                            | 415 (23.6467%)              |
| Student year (n=1755)                              | Fourth-year undergraduate                                                                                           | 125 (7.1225%)               |
| Student year (n=1755)                              | Master' s student                                                                                                   | 390 (22.2222%)              |
| Student year (n=1755)                              | Doctoral student                                                                                                    | 20 (1.1396%)                |
| Student on-campus residence status (n=1755)        | Yes                                                                                                                 | 1605 (91.4530%)             |
| Student on-campus residence status (n=1755)        | No                                                                                                                  | 150 (8.5470%)               |
| Logistics and service-enterprise personnel (n=105) | 1 year or less                                                                                                      | 5 (4.7619%)                 |
| Logistics and service-enterprise personnel (n=105) | 2-5 years                                                                                                           | 25 (23.8095%)               |
| Logistics and service-enterprise personnel (n=105) | 6-10 years                                                                                                          | 15 (14.2857%)               |
| Logistics and service-enterprise personnel (n=105) | 11 years or more                                                                                                    | 60 (57.1429%)               |
| Frequency of use of logistics services             | Daily                                                                                                               | 540 (27.2040%)              |
| Frequency of use of logistics services             | \$ \$3 times per week                                                                                               | 415 (20.9068%)              |
| Frequency of use of logistics services             | Occasionally                                                                                                        | 690 (34.7607%)              |
| Frequency of use of logistics services             | Almost never used                                                                                                   | 340 (17.1285%)              |
| Exposure to widely discussed incidents             | Yes; I personally experienced one                                                                                   | 200 (10.0756%)              |
| Exposure to widely discussed incidents             | Yes; classmates around me experienced one / I saw one on the campus platform / colleagues around me experienced one | 675 (34.0050%)              |

|                                        |                                  |                |
|----------------------------------------|----------------------------------|----------------|
| Exposure to widely discussed incidents | No; I have never encountered one | 685 (34.5088%) |
| Exposure to widely discussed incidents | Cannot remember clearly          | 425 (21.4106%) |

A total of 2,187 teacher-student satisfaction questionnaires were distributed, and 2,187 were returned. After excluding 202 invalid questionnaires, 1,985 valid questionnaires were ultimately obtained, yielding an effective response rate of 90.7600%. The sample consisted mainly of current students, while also covering non-logistics staff, personnel in logistics departments, and employees of logistics service enterprises, thereby providing a relatively comprehensive reflection of the multiple participating stakeholders in university logistics services.

### III. Empirical Analysis

#### 3.1 Calculation of Expert Questionnaire Weights Based on AHP

This study adopts the analytic hierarchy process (AHP) to calculate the basic weights of the indicators. The expert questionnaire uses a “ranking + scoring” model: the ranking information is used to determine the order of relative importance, and the scoring information is used to quantify differences in importance. For records in which only ranking information or scoring information was completed and standardization was not possible, a unified assignment was made according to the midpoint of the interval specified in the question. The calculation of weights for both first-level and second-level indicators follows “judgment matrix construction—weight vector solution—

the process of the “consistency test.”

##### 3.1.1 Judgment Matrix and Weights of the First-Level Indicators

Based on the ranking results for the first-level indicators provided by 43 experts, the mean importance scores of the first-level indicators, in descending order, were: pre-event prevention, in-event response, safeguard mechanism, post-event consolidation, and effectiveness of integration into education. After normalization using AHP, the weights of the first-level indicators were as follows.

**Table 4 Calculation Results for the Weights of the First-Level Indicators**

| First-level indicator  | Mean importance score | Normalized weight | Importance ranking |
|------------------------|-----------------------|-------------------|--------------------|
| A Pre-event prevention | 7.6628                | 0.2660            | 1                  |

| First-level indicator                         | Mean importance score | Normalized weight | Importance ranking |
|-----------------------------------------------|-----------------------|-------------------|--------------------|
| B In-event response                           | 6.4419                | 0.2237            | 2                  |
| C Post-event consolidation                    | 4.5814                | 0.1591            | 4                  |
| D Safeguard mechanism                         | 6.0930                | 0.2115            | 3                  |
| E Effectiveness of integration into education | 4.0233                | 0.1397            | 5                  |

The ranking of the first-level indicator weights is consistent with the mean importance scores, indicating that the experts' opinions are logically consistent and that the top-level structure of the indicator system has relatively strong stability.

### 3.1.2 Weights and Combined Weights of the Second-Level Indicators

The relative weights of the second-level indicators were obtained from the mean rankings within each first-level dimension, and the combined weight was calculated as: combined weight = first-level indicator weight  $\times$  relative weight of the second-level indicator. The following presents the weight results for the second-level indicators under the five first-level dimensions A-E.

Table 5. Statistics on Weights and Satisfaction for Dimension A (Secondary Indicators)

| Indicator                                                | Expert Importance Mean | Intra-Dimension Weight | Satisfaction Mean | Standard Deviation | Combined Weight | Weighted Contribution |
|----------------------------------------------------------|------------------------|------------------------|-------------------|--------------------|-----------------|-----------------------|
| A1 Public-opinion risk screening in the logistics domain | 6.8023                 | 0.2474                 | 4.2040            | 1.0046             | 0.0658          | 0.2767                |

| Indicator                                                                                                                         | Expert<br>Importance<br>Mean | Intra-<br>Dimension<br>Weight | Satisfaction<br>Mean | Standard<br>Deviation | Combined<br>Weight | Weighted<br>Contribution |
|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------------------------------|----------------------|-----------------------|--------------------|--------------------------|
| A2<br>Pre-<br>ven-<br>tive<br>education-<br>oriented<br>public-<br>ity                                                            | 4.7558                       | 0.1729                        | 4.3073               | 0.9345                | 0.0460             | 0.1982                   |
| A3<br>Public-<br>opinion<br>moni-<br>toring<br>and<br>early-<br>warning<br>mecha-<br>nism                                         | 5.9651                       | 0.2169                        | 4.1562               | 1.0119                | 0.0577             | 0.2398                   |
| A4 Ca-<br>pacity<br>train-<br>ing for<br>logis-<br>tics<br>per-<br>sonnel                                                         | 5.5000                       | 0.2000                        | 4.2670               | 0.9574                | 0.0532             | 0.2270                   |
| A5<br>Con-<br>struc-<br>tion of<br>a<br>student-<br>participatory<br>public-<br>opinion<br>pre-<br>ven-<br>tion<br>mecha-<br>nism | 4.4767                       | 0.1628                        | 4.1058               | 1.0668                | 0.0433             | 0.1778                   |

Table 6. Statistics on Weights and Satisfaction for Dimension B (Secondary Indicators)

| Indicator                                                                                       | Expert<br>Importance<br>Mean | Intra-<br>Dimension<br>Weight | Satisfaction<br>Mean | Standard<br>Devia-<br>tion | Combined<br>Weight | Weighted<br>Contri-<br>bution |
|-------------------------------------------------------------------------------------------------|------------------------------|-------------------------------|----------------------|----------------------------|--------------------|-------------------------------|
| B1<br>Rapid<br>activa-<br>tion of<br>public-<br>opinion<br>re-<br>sponse                        | 7.1279                       | 0.2592                        | 4.0554               | 1.0916                     | 0.0580             | 0.2351                        |
| B2 Re-<br>sponse<br>to stu-<br>dents'<br>reason-<br>able<br>de-<br>mands                        | 6.3837                       | 0.2321                        | 4.0050               | 1.1470                     | 0.0519             | 0.2079                        |
| B3<br>Imple-<br>menta-<br>tion of<br>stan-<br>dard-<br>ized<br>han-<br>dling<br>proce-<br>dures | 5.1744                       | 0.1882                        | 4.0856               | 1.0447                     | 0.0421             | 0.1719                        |
| B4<br>Cross-<br>departmental<br>coordi-<br>nation<br>and<br>link-<br>age                        | 5.8721                       | 0.2135                        | 4.0227               | 1.1234                     | 0.0478             | 0.1921                        |

| Indicator                                                               | Expert<br>Importance<br>Mean | Intra-<br>Dimension<br>Weight | Satisfaction<br>Mean | Standard<br>Deviation | Combined<br>Weight | Weighted<br>Contribution |
|-------------------------------------------------------------------------|------------------------------|-------------------------------|----------------------|-----------------------|--------------------|--------------------------|
| B5<br>Identifying<br>educational<br>opportunities<br>during<br>handling | 2.9419                       | 0.1070                        | 4.1662               | 1.0325                | 0.0239             | 0.0997                   |

Table 7. Statistics on Weights and Satisfaction for Dimension C (Secondary Indicators)

| Indicator                                                                                         | Expert<br>Importance<br>Mean | Intra-<br>Dimension<br>Weight | Satisfaction<br>Mean | Standard<br>Deviation | Combined<br>Weight | Weighted<br>Contribution |
|---------------------------------------------------------------------------------------------------|------------------------------|-------------------------------|----------------------|-----------------------|--------------------|--------------------------|
| C1 Review<br>and<br>summary<br>of<br>typical<br>cases<br>and<br>dissemination<br>of<br>experience | 5.1744                       | 0.1882                        | 3.9698               | 1.1422                | 0.0299             | 0.1188                   |

| Indicator                                                                            | Expert<br>Importance<br>Mean | Intra-<br>Dimension<br>Weight | Satisfaction<br>Mean | Standard<br>Deviation | Combined<br>Weight | Weighted<br>Contribution |
|--------------------------------------------------------------------------------------|------------------------------|-------------------------------|----------------------|-----------------------|--------------------|--------------------------|
| C2<br>Precise<br>optimization of<br>logistics<br>services                            | 6.7558                       | 0.2457                        | 3.9975               | 1.1348                | 0.0391             | 0.1562                   |
| C3 Improvement<br>of the integrated<br>education<br>mechanism                        | 4.4767                       | 0.1628                        | 3.9924               | 1.1633                | 0.0259             | 0.1034                   |
| C4<br>Monitoring,<br>prevention,<br>and control of<br>secondary<br>public<br>opinion | 5.7326                       | 0.2085                        | 3.9244               | 1.1792                | 0.0332             | 0.1301                   |



| Indicator                                                                                      | Expert<br>Importance<br>Mean | Intra-<br>Dimension<br>Weight | Satisfaction<br>Mean | Standard<br>Deviation | Combined<br>Weight | Weighted<br>Contribution |
|------------------------------------------------------------------------------------------------|------------------------------|-------------------------------|----------------------|-----------------------|--------------------|--------------------------|
| C5 Up-<br>grad-<br>ing<br>risk<br>pre-<br>ven-<br>tion<br>and<br>con-<br>trol<br>mea-<br>sures | 5.3605                       | 0.1949                        | 4.0277               | 1.1233                | 0.0310             | 0.1249                   |

Table 8. Statistics of weights and satisfaction for Dimension D (secondary indicators)

| Indicator                                    | Mean<br>expert<br>import-<br>tance | Within-<br>dimension<br>weight | Mean<br>satisfac-<br>tion | Standard<br>deviation | Combined<br>weight | Weighted<br>contribu-<br>tion |
|----------------------------------------------|------------------------------------|--------------------------------|---------------------------|-----------------------|--------------------|-------------------------------|
| D1 Or-<br>ganiza-<br>tional<br>sup-<br>port  | 6.0116                             | 0.2186                         | 4.0327                    | 1.1187                | 0.0462             | 0.1865                        |
| D2 In-<br>stitu-<br>tional<br>sup-<br>port   | 6.7558                             | 0.2457                         | 4.0504                    | 1.1676                | 0.0520             | 0.2105                        |
| D3 Profes-<br>sional<br>team<br>sup-<br>port | 6.0581                             | 0.2203                         | 4.0882                    | 1.1224                | 0.0466             | 0.1905                        |

| Indicator                                | Mean<br>expert<br>impor-<br>tance | Within-<br>dimension<br>weight | Mean<br>satisfac-<br>tion | Standard<br>deviation | Combined<br>weight | Weighted<br>contribu-<br>tion |
|------------------------------------------|-----------------------------------|--------------------------------|---------------------------|-----------------------|--------------------|-------------------------------|
| D4<br>Fund-<br>ing<br>sup-<br>port       | 5.0814                            | 0.1848                         | 4.0504                    | 1.1590                | 0.0391             | 0.1583                        |
| D5<br>Technical-<br>tool<br>sup-<br>port | 3.5930                            | 0.1307                         | 4.0025                    | 1.1655                | 0.0276             | 0.1106                        |

Table 9. Statistics of weights and satisfaction for Dimension E (secondary indicators)

| Indicator                                                                                                                        | Mean<br>expert<br>impor-<br>tance | Within-<br>dimension<br>weight | Mean<br>satisfac-<br>tion | Standard<br>deviation | Combined<br>weight | Weighted<br>contribu-<br>tion |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------------------------|---------------------------|-----------------------|--------------------|-------------------------------|
| E1<br>Dual<br>im-<br>prove-<br>ment<br>in stu-<br>dents'<br>rule<br>aware-<br>ness<br>and<br>service<br>identi-<br>fica-<br>tion | 6.7093                            | 0.2440                         | 4.1310                    | 1.0966                | 0.0341             | 0.1408                        |

| Indicator                                                                                                      | Mean<br>expert<br>importance | Within-<br>dimension<br>weight | Mean<br>satisfac-<br>tion | Standard<br>deviation | Combined<br>weight | Weighted<br>contribu-<br>tion |
|----------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------|---------------------------|-----------------------|--------------------|-------------------------------|
| E2 En-<br>hance-<br>ment<br>of stu-<br>dents'<br>as-<br>sump-<br>tion of<br>public<br>re-<br>sponsi-<br>bility | 5.7791                       | 0.2101                         | 4.1763                    | 1.0161                | 0.0294             | 0.1226                        |
| E3 Op-<br>timiza-<br>tion of<br>logis-<br>tics<br>ser-<br>vices<br>inte-<br>grated<br>with<br>educa-<br>tion   | 4.6628                       | 0.1696                         | 4.1310                    | 1.0897                | 0.0237             | 0.0978                        |
| E4 Im-<br>prove-<br>ment<br>of the<br>cam-<br>pus<br>educa-<br>tional<br>ecosys-<br>tem                        | 4.9419                       | 0.1797                         | 4.0806                    | 1.1196                | 0.0251             | 0.1024                        |

| Indicator                                                                                                                                                                                     | Mean<br>expert<br>importance | Within-<br>dimension<br>weight | Mean<br>satisfac-<br>tion | Standard<br>deviation | Combined<br>weight | Weighted<br>contribu-<br>tion |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|--------------------------------|---------------------------|-----------------------|--------------------|-------------------------------|
| E5<br>Forma-<br>tion of<br>a long-<br>term<br>mecha-<br>nism<br>for<br>han-<br>dling<br>public<br>opin-<br>ion<br>through<br>educa-<br>tion-<br>man-<br>age-<br>ment<br>inte-<br>gra-<br>tion | 5.4070                       | 0.1966                         | 4.0227                    | 1.1544                | 0.0275             | 0.1105                        |

Based on the ranking of the combined weights of the secondary indicators, it can be seen that A1 public-opinion risk screening in the logistics field, A3 public-opinion monitoring and early-warning mechanism, B1 initiation of rapid public-opinion response, A4 capacity training for logistics personnel, and D2 institutional support rank at the top. This indicates that the expert group regards “front-end prevention–rapid response–institutional support” as the core lever for public-opinion governance in university logistics. By comparison, B5 mining educational opportunities during handling, C3 improvement of the integrated education mechanism, and D5 technical-tool support have relatively low weights, indicating that there remains room for improvement in embedding educational value, supporting digital tools, and student participatory governance.

### 3.1.3 Consistency Test and Interpretation of Weights

After calculation, the weight calculation results for the first-level indicators and the consistency-test parameters are as follows:

Maximum eigenvalue:

$$\lambda_{\max} = 5.0004$$

Consistency index:

$$CI = \frac{\lambda_{\max} - n}{n - 1} = \frac{5.0004 - 5}{5 - 1} = 0.0001$$

Average random consistency index ( $n = 5$ ):

$$RI = 1.1200$$

Consistency ratio:

$$CR = \frac{CI}{RI} = \frac{0.0001}{1.1200} \approx 0.0001 < 0.1$$

Thus, the consistency test is passed, indicating that the experts' judgments regarding "pre-event prevention—during-event handling—safeguard mechanisms—post-event consolidation—effectiveness of integration into education" have a relatively high degree of logical consistency.

Following the same logic, judgment matrices were constructed for the second-level indicators under each first-level indicator, relative weights were calculated, and consistency tests were completed. The CR values of all second-level indicator judgment matrices were less than 0.1, and all passed the consistency test. This indicates that the judgment matrices within each dimension of the second-level indicators likewise meet the consistency requirements, and that the weight results can be used for subsequent comprehensive evaluation.

### 3.2 Analysis of the Teacher-Student Satisfaction Questionnaire

The teacher-student satisfaction questionnaire contains a total of 26 items, among which dimension B includes one reverse-scored item. The reverse-scored item is first reverse-coded ( $6 - x$ ) for use in reliability and structural validity testing; in the calculation of dimensional means, descriptive statistics, and comprehensive weighted evaluation, dimension B uses only five substantive indicators (B1–B5).

#### 3.2.1 Reliability and Construct Validity Testing

**Table 10 Reliability and validity test results of the teacher-student satisfaction questionnaire**

| Dimension                                                                      | Number of items | Cronbach' s $\alpha$ |
|--------------------------------------------------------------------------------|-----------------|----------------------|
| A Pre-event prevention                                                         | 5               | 0.9363               |
| B In-process handling (including 1 reverse-worded item, after reverse scoring) | 6               | 0.7814               |
| C Post-event consolidation                                                     | 5               | 0.9210               |
| D Support mechanism                                                            | 5               | 0.9041               |
| E Effectiveness of education-practice integration                              | 5               | 0.8942               |
| Overall questionnaire                                                          | 26              | 0.9712               |

The results show that the overall questionnaire had a Cronbach' s  $\alpha$  of 0.9712, indicating excellent internal consistency of the scale. The  $\alpha$  values for the four dimensions A, C, D, and E were all above 0.89. After reverse scoring, the  $\alpha$  value for dimension B was 0.7814, which falls within the acceptable range; if this control item were removed, the value would rise to 0.9388. Considering that the reverse-worded item mainly serves the function of checking attention and consistency, it will not be included in subsequent dimensional mean calculations or weighted evaluations.

The construct validity test showed that the KMO value was 0.9708, and Bartlett' s test of sphericity yielded  $\chi^2 = 53097.0394$ ,  $df = 325$ ,  $p < 0.0001$ , indicating significant correlations among the items and demonstrating that the data are suitable for factor analysis and comprehensive effectiveness evaluation.

### 3.2.2 Statistics for Reverse-Worded Items in Dimension B

**Table 11 Statistics for reverse-worded items in Dimension B after reverse scoring**

| Item                                                                                   | Mean<br>satisfaction<br>score | Standard<br>deviation | Corrected<br>item-total<br>correlation | Cronbach' s $\alpha$<br>if item deleted |
|----------------------------------------------------------------------------------------|-------------------------------|-----------------------|----------------------------------------|-----------------------------------------|
| B1<br>Initiation<br>of rapid<br>public-<br>opinion<br>response                         | 4.0554                        | 1.0916                | 0.8258                                 | 0.6778                                  |
| B2<br>Response<br>to<br>students'<br>reasonable<br>demands                             | 4.0050                        | 1.1470                | 0.7912                                 | 0.6826                                  |
| B3 Imple-<br>mentation<br>of stan-<br>dardized<br>handling<br>procedures               | 4.0856                        | 1.0447                | 0.7555                                 | 0.6988                                  |
| B4 Cross-<br>departmental<br>coordina-<br>tion and<br>linkage                          | 4.0227                        | 1.1234                | 0.7540                                 | 0.6938                                  |
| B5 Identi-<br>fication of<br>educa-<br>tional<br>opportuni-<br>ties during<br>handling | 4.1662                        | 1.0325                | 0.7019                                 | 0.7120                                  |
| Reverse-<br>worded<br>item after<br>6 - $x$                                            | 3.0882                        | 1.6001                | -0.1306                                | 0.9388                                  |

### 3.2.3 Satisfaction, IPA Analysis, and Comprehensive Performance Evaluation of First-Level Dimensions

**Table 12** Satisfaction scores and proportion of high scores for first-level dimensions

| First-level dimension                      | Mean expert-rated importance | Normalized weight | Mean satisfaction score | Weighted contribution of dimension | Proportion of scores 4-5 |
|--------------------------------------------|------------------------------|-------------------|-------------------------|------------------------------------|--------------------------|
| A Pre-event prevention                     | 7.6628                       | 0.2660            | 4.2081                  | 1.1195                             | 71.5400%                 |
| B In-process handling                      | 6.4419                       | 0.2237            | 4.0670                  | 0.9096                             | 66.2500%                 |
| C Post-event consolidation                 | 4.5814                       | 0.1591            | 3.9824                  | 0.6334                             | 63.7300%                 |
| D Support mechanism                        | 6.0930                       | 0.2115            | 4.0448                  | 0.8557                             | 68.0100%                 |
| E Effectiveness of educational integration | 4.0233                       | 0.1397            | 4.1083                  | 0.5739                             | 70.0300%                 |

From the perspective of mean satisfaction scores, Dimension A and Dimension E scored relatively high, indicating that the school has already formed a relatively solid foundation in front-end risk screening, basic guidance, and the embedding of educational value. Dimension C had the lowest score, suggesting that post-event review, continuous follow-up, and long-term optimization remain the links with the greatest room for improvement. According to the importance-satisfaction matrix classification, Dimension A belongs to

the “advantage-maintenance zone” ; Dimension B belongs to the “priority-improvement zone” ; Dimension E belongs to the “opportunity-expansion zone” ; and Dimensions C and D belong to the “secondary-enhancement zone.”

Table 13 Distribution of Overall Satisfaction Scores on a 10-Point Scale (N=1985)

| 10-point score | Number of respondents | Proportion |
|----------------|-----------------------|------------|
| 1              | 15                    | 0.7557%    |



| 10-point score | Number of respondents | Proportion |
|----------------|-----------------------|------------|
| 2              | 15                    | 0.7557%    |
| 3              | 35                    | 1.7632%    |
| 4              | 30                    | 1.5113%    |
| 5              | 95                    | 4.7859%    |
| 6              | 110                   | 5.5416%    |
| 7              | 220                   | 11.0831%   |
| 8              | 375                   | 18.8917%   |
| 9              | 325                   | 16.3728%   |
| 10             | 765                   | 38.5390%   |

The mean overall satisfaction score on the 10-point scale was 8.3224, the median was 9.0000, and the standard deviation was 1.9213. Samples scoring 8 points or above accounted for 73.8035%, and those scoring 9 points or above accounted for 54.9118%. This indicates that overall satisfaction was at a relatively high level; however, the presence of medium and low ratings still suggests that there remains room for improvement in certain aspects of logistics services.

### 3.2.4 Mean Satisfaction and Weighted Contribution of Secondary Indicators

To avoid using only first-level dimensions and thereby masking structural differences, this paper further calculates the satisfaction mean, standard deviation, combined weight, and weighted contribution based on 25 secondary indicators.

The calculation formula is:

$$S = \sum_{i=1}^n w_i \times x_i$$

where  $S$  is the total comprehensive performance score,  $w_i$  is the combined weighted weight of the  $i$ -th secondary indicator, and  $x_i$  is the satisfaction mean of the question item corresponding to the  $i$ -th secondary indicator, with a full score of 5 points.

The ranking and weighted contribution of the secondary indicators within each dimension are as follows.

Table 11 Satisfaction and Weight of Secondary Indicators in Dimension A

| Indicator                                                                      | Satisfaction mean | Standard deviation | Combined weight | Weighted contribution | Proportion of 4-5 scores |
|--------------------------------------------------------------------------------|-------------------|--------------------|-----------------|-----------------------|--------------------------|
| A1 Screening of public-opinion risks in the logistics field                    | 4.2040            | 1.0046             | 0.0658          | 0.2767                | 79.5970%                 |
| A2 Preventive education-oriented publicity                                     | 4.3073            | 0.9345             | 0.0460          | 0.1982                | 82.3678%                 |
| A3 Public-opinion monitoring and early-warning mechanism                       | 4.1562            | 1.0119             | 0.0577          | 0.2398                | 76.8262%                 |
| A4 Capacity training for logistics personnel                                   | 4.2670            | 0.9574             | 0.0532          | 0.2270                | 81.6121%                 |
| A5 Construction of a student-participatory public-opinion prevention mechanism | 4.1058            | 1.0668             | 0.0433          | 0.1778                | 75.3149%                 |

Table 12 Satisfaction and Weight of Secondary Indicators in Dimension B

| Indicator                                             | Satisfaction mean | Standard deviation | Combined weight | Weighted contribution | Proportion of 4-5 scores |
|-------------------------------------------------------|-------------------|--------------------|-----------------|-----------------------|--------------------------|
| B1 Initiation of rapid public-opinion response        | 4.0554            | 1.0916             | 0.0580          | 0.2351                | 73.8035%                 |
| B2 Response to students' reasonable demands           | 4.0050            | 1.1470             | 0.0519          | 0.2079                | 72.0403%                 |
| B3 Implementation of standardized handling procedures | 4.0856            | 1.0447             | 0.0421          | 0.1719                | 73.0479%                 |
| B4 Cross-departmental coordination and linkage        | 4.0227            | 1.1234             | 0.0478          | 0.1921                | 73.0479%                 |

|                                                                                             |        |        |        |        |          |
|---------------------------------------------------------------------------------------------|--------|--------|--------|--------|----------|
| B5                                                                                          | 4.1662 | 1.0325 | 0.0239 | 0.0997 | 78.5894% |
| Identifi-<br>cation<br>of edu-<br>cational<br>opportu-<br>nities<br>during<br>han-<br>dling |        |        |        |        |          |

Table 13 Satisfaction and Weights of Secondary Indicators in Dimension C

| Indicator                                                                                                     | Mean<br>satisfaction<br>score | Standard<br>deviation | Combined<br>weight | Weighted<br>contribu-<br>tion | Proportion<br>of scores 4-<br>5 |
|---------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------|--------------------|-------------------------------|---------------------------------|
| C1<br>Review<br>and<br>sum-<br>mary of<br>typical<br>cases<br>and<br>dissemi-<br>nation<br>of expe-<br>rience | 3.9698                        | 1.1422                | 0.0299             | 0.1188                        | 71.0327%                        |
| C2<br>Precise<br>opti-<br>miza-<br>tion of<br>logisti-<br>cal<br>services                                     | 3.9975                        | 1.1348                | 0.0391             | 0.1562                        | 73.0479%                        |

| Indicator                                                                            | Mean satisfaction score | Standard deviation | Combined weight | Weighted contribution | Proportion of scores 4-5 |
|--------------------------------------------------------------------------------------|-------------------------|--------------------|-----------------|-----------------------|--------------------------|
| C3 Improvement of the integrated education mechanism                                 | 3.9924                  | 1.1633             | 0.0259          | 0.1034                | 73.2997%                 |
| C4 Monitoring, early warning, and prevention and control of secondary public opinion | 3.9244                  | 1.1792             | 0.0332          | 0.1301                | 69.5214%                 |
| C5 Upgrading of risk prevention and control methods                                  | 4.0277                  | 1.1233             | 0.0310          | 0.1249                | 73.2997%                 |

Table 14 Satisfaction and Weights of Secondary Indicators in Dimension D

| Indicator                 | Mean satisfaction score | Standard deviation | Combined weight | Weighted contribution | Proportion of scores 4-5 |
|---------------------------|-------------------------|--------------------|-----------------|-----------------------|--------------------------|
| D1 Organizational support | 4.0327                  | 1.1187             | 0.0462          | 0.1865                | 73.2997%                 |
| D2 Institutional support  | 4.0504                  | 1.1676             | 0.0520          | 0.2105                | 76.0705%                 |

| Indicator                    | Mean satisfaction score | Standard deviation | Combined weight | Weighted contribution | Proportion of scores 4-5 |
|------------------------------|-------------------------|--------------------|-----------------|-----------------------|--------------------------|
| D3 Professional team support | 4.0882                  | 1.1224             | 0.0466          | 0.1905                | 75.8186%                 |
| D4 Funding support           | 4.0504                  | 1.1590             | 0.0391          | 0.1583                | 75.0630%                 |
| D5 Technical tool support    | 4.0025                  | 1.1655             | 0.0276          | 0.1106                | 72.5441%                 |

Table 15 Satisfaction and Weights of Secondary Indicators in Dimension E

| Indicator                                                                       | Mean satisfaction score | Standard deviation | Combined weight | Weighted contribution | Proportion of scores 4-5 |
|---------------------------------------------------------------------------------|-------------------------|--------------------|-----------------|-----------------------|--------------------------|
| E1 Dual enhancement of students' awareness of rules and recognition of services | 4.1310                  | 1.0966             | 0.0341          | 0.1408                | 77.5819%                 |
| E2 Strengthening students' assumption of public responsibility                  | 4.1763                  | 1.0161             | 0.0294          | 0.1226                | 78.8413%                 |

| Indicator                                                                                   | Mean satisfaction score | Standard deviation | Combined weight | Weighted contribution | Proportion of scores 4-5 |
|---------------------------------------------------------------------------------------------|-------------------------|--------------------|-----------------|-----------------------|--------------------------|
| E3 Optimization of logistical services after integration of education                       | 4.1310                  | 1.0897             | 0.0237          | 0.0978                | 78.0856%                 |
| E4 Improvement of the campus education ecology                                              | 4.0806                  | 1.1196             | 0.0251          | 0.1024                | 76.0705%                 |
| E5 Formation of a long-term mechanism for integrating education and public-opinion response | 4.0227                  | 1.1544             | 0.0275          | 0.1105                | 74.8111%                 |

Based on the weighted aggregation of the 25 secondary indicators, the comprehensive efficacy score is 4.0903 points out of a full score of 5; when reviewed by aggregating the primary dimensions, the result is 4.0921 points. The difference between the two calculation paths is extremely small, indicating that the results of the evaluation system are stable. The efficacy scores show that

the overall comprehensive efficacy of public-opinion response in university logistics is currently at a good-to-above-average level; however, in-process handling, post-event consolidation, and support mechanisms remain the key areas for subsequent improvement.

### 3.2.5 Key Improvement Links and Open-Ended Feedback

Table 16 Frequency distribution of multiple-choice responses to “links most in need of focused improvement” ( $N = 1985$ )

| Key improvement link                      | Number of mentions | Proportion |
|-------------------------------------------|--------------------|------------|
| D Service guarantee and support           | 1120               | 56.4232%   |
| B Problem response and handling           | 1080               | 54.4081%   |
| C Post-event optimization and improvement | 965                | 48.6146%   |
| A Pre-event prevention and publicity      | 630                | 31.7380%   |
| E Educational guidance and effects        | 465                | 23.4257%   |
| Other                                     | 115                | 5.7935%    |

From the perspective of improvement priorities, service guarantee and support, problem response and handling, and post-event optimization and improvement are the three links that faculty and students most hope will be improved first. This indicates that the “perceptible support capacity,” “response speed,” and “closed-loop repair capability” of logistics services still need to be strengthened.

Table 17 Open-ended text keyword coding results

| Open-ended feedback keyword | Number of mentions |
|-----------------------------|--------------------|
| Dormitories                 | 270                |
| Dining hall                 | 185                |
| Hot water                   | 80                 |
| Water outage                | 60                 |
| Express delivery            | 50                 |
| Repairs                     | 35                 |
| Construction                | 35                 |
| Restrooms                   | 35                 |
| Feedback                    | 30                 |
| Water dispensers            | 15                 |
| Transparency                | 10                 |
| Price                       | 5                  |

Open-ended textual feedback was concentrated on livelihood-related pain points such as dormitory facilities, dining-hall services, hot-water supply, water outages



and construction, express-delivery services, repair efficiency, and information transparency. This corroborates the conclusions drawn from the quantitative results, namely that “satisfaction with in-process handling is relatively low, and post-event consolidation and support mechanisms still need improvement.”

## **IV. Empirical Results and Strategies for Capacity Enhancement**

The foregoing results show that current public-opinion governance in university logistics presents a relatively clear structural pattern of “priority given to front-end prevention, intermediate performance in the handling stage, and relative weakness in safeguards and post-event optimization.” Experts attach greater importance to risk investigation, early warning, and rapid response, whereas teachers and students express stronger demand for service assurance, problem response, and continuous improvement. The two types of actors do not have a low perception of the “educational value,” but its degree of institutionalization and proceduralization remains insufficient, indicating that university logistics public-opinion

Public-opinion governance still needs to move further from a “control-oriented” approach toward an integrated pathway of “governance—education—co-creation.”

### **4.1 Pre-incident Prevention: From One-way Risk Screening to Pluralistic Co-governance**

The pre-incident prevention dimension has the highest weight and also relatively high satisfaction, indicating that the school has already established a certain foundation in risk screening, publicity and guidance, and routine reminders. The scores and weights of A1, A3, and A4 all rank near the top, showing that teachers and students have a relatively high level of recognition for the governance logic of “first identifying, then preventing, and then reminding.” In subsequent work, emphasis should be placed on normalizing a participatory prevention mechanism for students. Relying on the campus official WeChat account, mini-programs, suggestion boxes, and the student supervisor system, a closed loop for risk prevention and control should be formed, featuring “daily inspections, weekly summaries, and monthly public disclosure.”

### **4.2 In-process Handling: Embedding Educational Scenarios While Responding Efficiently**

In-process handling is the stage most directly perceived by teachers and students. B1 and B2 both rank high in expert weights and teacher-student satisfaction, indicating that “respond first, then resolve, then explain” is an important consensus in logistics-related public-opinion governance. At the same time, although the score for B5—identifying educational opportunities during handling—is not low, its weight is relatively low, suggesting that the current handling process places greater emphasis on resolving practical matters, while educational guidance has

not yet been sufficiently institutionalized. It is recommended to establish a graded response mechanism, clearly specifying the time requirements of “initial response within 2 hours, clear reply within 24 hours, and rectification feedback within 72 hours,” and to embed value guidance—such as responsibility, rational communication, conservation, and environmental protection—into on-site Q&A, case explanations, and public communication.

### **4.3 Post-incident Consolidation: From Case Closure to Closed-loop Optimization and Iteration**

The mean score for the post-event consolidation dimension was relatively the lowest; in particular, C1 case review, C3 mechanism improvement, and C4 secondary public-opinion prevention and control still have considerable room for improvement. This indicates that, after problems are resolved, schools still lack sufficient institutionalization in case review, process correction, and continuous follow-up, and the risk of similar problems recurring remains. It is recommended to establish a public-opinion case review checklist, a rectification ledger, and a follow-up revisit system, and to disclose rectification results to teachers and students, thereby forming a closed-loop governance mechanism of “handling—review—optimization—prevention.”

### **4.4 Support Mechanisms: From Back-End Configuration to Perceptible Support**

Support mechanisms are the underlying foundation for the stable operation of the system. D2 institutional support, D3 professional team support, and D1 organizational support rank among the top items within the dimension, indicating that clear institutions, professional teams, and explicit division of labor are the basic guarantees most expected by teachers and students. D5 technical tool support, however, is positioned relatively lower, suggesting that capacities for online feedback, progress inquiry, and data connectivity still need improvement. It is recommended to add a dedicated coordination mechanism within the existing logistics work framework, improve institutional manuals, training mechanisms, and digital feedback platforms, and enhance the transparency and traceability of the governance process.

### **4.5 Effectiveness of Integrating Education: From Outcome Evaluation to the Formation of a Symbiotic Community**

Dimension E shows relatively high satisfaction in teacher-student evaluations, indicating that students do not reject the educational value embedded in logistics services; indeed, they recognize it to a considerable degree. E1 and E2 reflect that students have already provided positive feedback regarding rule awareness and public responsibility, but E3–E5 indicate that the structural outcomes of education integration still need to be further solidified through institutions and scenarios. It is recommended that activities such as the “Clean Plate Cam-

paign,” “Civilized Dormitories,” “Green Campus,” and “Service Volunteering” be embedded into logistics service processes 欠

participation, and promote the formation of a service-education community jointly by universities, logistics service enterprises, teachers, and students.

## V. Research Conclusions

From the perspective of the education community, this study constructed an indicator system integrating university logistics-related public-opinion governance with service-based education across the full cycle of public opinion, and completed empirical validation through questionnaires from 43 experts and 1,985 teacher-student satisfaction surveys. The findings show that: first, experts place the greatest emphasis on “front-end prevention—rapid response—institutional support” ; second, teachers and students report relatively high overall satisfaction with logistics services, but still have strong expectations for improvement in post-event consolidation and support mechanisms; third, the weighted comprehensive effectiveness score of the 25 secondary indicators is 4.0903, indicating that the current system is generally sound, while further room for improvement is concentrated mainly in closed-loop governance, technical support, and the institutionalization of education mechanisms.

## VI. Research Limitations and Prospects

The limitation of this study lies in the fact that its sample comes mainly from a single university setting. Future research may be extended to universities in different regions and of different types, and may construct more targeted indicator subsystems for specific scenarios such as canteen dining, dormitory accommodation, and maintenance construction, so as to enhance the generalizability and explanatory power of the conclusions.

## Conclusion

In the future, as the concept of “three-wide education” continues to deepen, university logistics departments need gradually to break away from the traditional thinking of “emphasizing service while neglecting education” and “emphasizing control while neglecting participation.” Taking the education community as the core paradigm, they should embed educational goals throughout the entire process of public-opinion governance, and truly realize “service

the goal of “service with warmth, governance with strength, and education with depth,” thereby providing solid logistical support for universities in fulfilling the fundamental task of “fostering virtue and cultivating people.”

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*Note: Figure translations are in progress. See original paper for figures.*

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