

# Indicators for BSC-based Assessment of Integrated Military-Civilian Logistics Support

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**Abstract.** Balanced score card (BSC) is a comprehensive method for strategic management and organizational performance assessment. By introducing it into the assessment of integrated military-civilian logistics support, a BSC-based analytic framework is established to compose the strategic map for integrated military-civilian logistics support and analyze the drivers to the assessment of integrated military-civilian logistics support. On this basis, the indicators for assessment of integrated military-civilian logistics support are explored to facilitate the assessment of integrated military-civilian logistics support and provide the ideas and basis for the study on its indicators.

## 1. Introduction

The modernization of national defense and army relies on the powerful support of military logistics. While military-civilian integration is promoted as a national strategy, integrated military-civilian logistics support will be inevitably pushed forward in the army. Integrated military-civilian logistics support implies integrating the army's and local supports effectively, making use of local supporting resources sufficiently, introducing market operation mechanism, enhancing the benefits from supports, and eventually realizing the unified dispatching of logistics resources in the market <sup>[1]</sup>. To further impel the study on the assessment of integrated military-civilian logistics support, this paper employs the balanced score card (BSC) as an analytic method to preliminarily identify the indicators for assessment of integrated military-civilian logistics support in the army.

## 2. Drivers to Integrated Military-Civilian Logistics Support

### 2.1 Design of Assessment Framework for Integrated Military-Civilian Logistics Support

Due to the practical differences between the logistics of the army and enterprises, the BSC suitable for enterprises should not be directly utilized in the design of indicators for assessment of integrated military-civilian logistics support, but should be adjusted considering the characteristics of integrated military-civilian logistics support to construct a new structure and indicator system of BSC. To be specific, the four common perspectives of BSC, namely, "customer, financial, internal business processes, learning and growth", can be converted into four "new" perspectives, i.e. "integration benefits, integration capital, integration mechanism, integration prospects", which could measure the level of military-civilian integration. These new perspectives are suitable for the design of indicators for assessment of integrated military-civilian logistics support. The BSC-based analytic framework for assessment of integrated military-civilian logistics support is presented in Fig. 1.

(1) In the customer perspective of BSC, attention is paid to how to create the value satisfying the needs of customers (service object). In the structure of BSC for integrated military-civilian logistics support, the customer perspective is converted into the perspective of demand for logistics support, that is, the benefits of integrated military-civilian logistics support. The indicators for integration benefits are mainly related to the degree of support efficiency improvement resulting from the change

of way for integrated military-civilian logistics support, the type of supporting materials, and the increase of total supporting materials, etc.

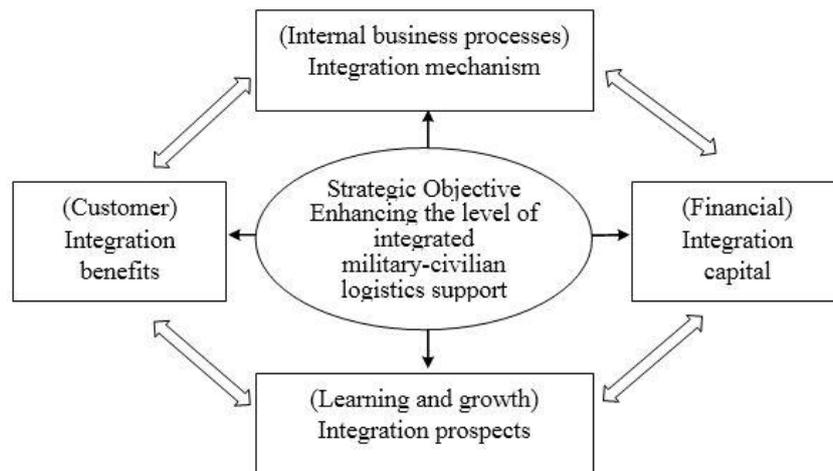


Fig. 1 BSC-based analytic framework for assessment of integrated military-civilian logistics support

(2) In the financial perspective of BSC, attention is paid to how the operation benefits and costs can be controlled as effectively as possible while satisfying customer demand. In the structure of BSC for integrated military-civilian logistics support, the financial perspective corresponds to the capital for military-civilian integration, which must be particularly highlighted in integrated military-civilian logistics support. The indicators for integration capital mainly take into account bringing new resources and cutting down expenses while protecting the interests of all parties including government, the army’s logistics department and local department, and providing as sufficient logistics support in the army as possible. Additionally, it must reach the break-even point, and guarantee some profits for suppliers.

(3) In the perspective of internal business processes, BSC focuses on what management method or technique can be used to guarantee the smooth operation of internal business and work processes. In the structure of BSC for integrated military-civilian logistics support, the perspective of internal business processes is converted into the institutional mechanism for military-civilian integration. The indicators are designed from the approach of total quality management, while the barriers in the business process of integrated military-civilian logistics support are eliminated by optimizing internal business processes, improving the decision-making and implementation system, and adjusting the supply chain of logistics support, etc. Therefore, these indicators mainly focus on facilitating the smooth implementation of integrated military-civilian logistics support through the organization of administrative institutions, the adjustment of access requirements, the optimization of operation mechanism, and the improvement of laws and regulations, etc.

(4) In the perspective of learning and growth, BSC addresses an enterprise’s capability of sustainable development in the future. In the structure of BSC for integrated military-civilian logistics support, the perspective of learning and growth is reflected in the prospects of military-civilian integration and the trend of its future development. With regard to integration prospects, attention is mainly paid to the scale of integrated military-civilian logistics support as well as the efforts and measures for better development in the future.

## 2.2 Drafting of Strategic Map for Assessment of Integrated Military-Civilian Logistics Support

Strategic map is used together with BSC to convert the strategies into a combination of measurable and decomposable indicators and events subject to internal logical relationship, so as to specify the specific way and process for the realization of strategic objective.

Considering the strategic objective of “enhancing the level of integrated military-civilian logistics support” as well as the specific condition of logistics support, the four perspectives of BSC are converted to select the key factors affecting the realization of the strategic objective for logistics

support. On this basis, the strategic map for assessment of integrated military-civilian logistics support is drafted as shown in Fig. 2.

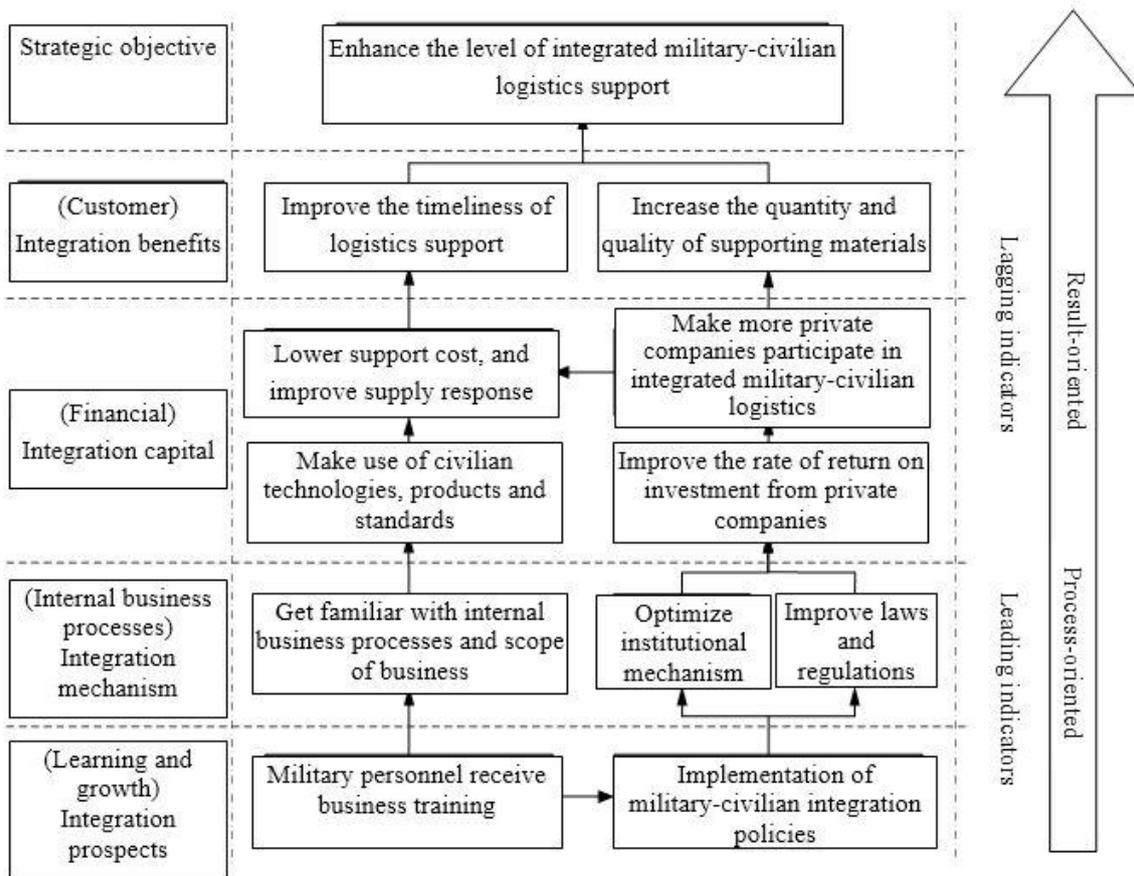


Fig. 2 Strategic map for assessment of integrated military-civilian logistics support

### 3. Indicators for Assessment of Integrated Military-Civilian Logistics Support

#### 3.1 Analysis of Indicators for Assessment of Integrated Military-Civilian Logistics Support

After analyzing the factors in the assessment of integrated military-civilian logistics support, the specific assessment indicators are determined as follows:

(1) Indicators related to integration benefits. Due to integration benefits, attention is mainly paid to improving the level of military-civilian integration, lowering support cost and improving supply response while following the mission of logistics support, so as to ensure the benefits from logistics support, which is the main objective of logistics support. The specific indicators include improvement of support timeliness, enhancement of support diversity, proportion of civilian supporting materials in terms of value, and proportion of civilian supporting materials in terms of quantity.

(2) Indicators related to integration capital. Integration capital should not only address the interests of all parties, but also guarantee the further decrease of logistics support cost in the army, while bringing some benefits to private companies. Hence, no party will suffer serious losses, which may undermine the development of military-civilian integration. The specific indicators include spending of special capital, saving of transportation fund, saving of research & development fund, and rate of return on investment from private companies, etc.

(3) Indicators related to integration mechanism. Integration mechanism mainly intends to identify the factors restricting the improvement of military-civilian integration from the internal business processes of logistics support, and organically connect the specific business processes of logistics support with the existing problems. The specific indicators include smoothness of institutional

mechanism for military-civilian integration, completeness of laws and regulations, integrity of logistics supply chain, effectiveness of management methods, and supplier evaluation index.

(4) Indicators related to integration prospects. Integration prospects mainly involve the development level of integrated military-civilian logistics support and the capability of its sustainable development. The specific indicators include implementation of policies, percentage of private companies qualified for access, output value of private companies qualified for access, percentage of project contracts undertaken by private companies in terms of quantity, percentage of project contracts undertaken by private companies in terms of value, number of personnel for military-civilian integration, and percentage of personnel receiving trainings, etc.

### 3.2 Establishment of Indicator System for Assessment of Integrated Military-Civilian Logistics Support

Based on the above analysis, the BSC-based indicators for assessment of integrated military-civilian logistics support are determined as presented in Table 1.

Table 1 Indicators for assessment of integrated military-civilian logistics support

Perspective	Strategic Objective	Measurement Indicator	Assessment Indicator
Customer	Ensure the timely and efficient logistics support	Integration benefits	Improvement of support timeliness
			Enhancement of support diversity
			Proportion of civilian supporting materials in terms of value
Financial	Maximize the interests of all parties	Integration capital	Proportion of civilian supporting materials in terms of quantity
			Spending of special capital,
			Saving of transportation fund
			Saving of research & development fund
Internal business processes	Form the perfect decision-making and implementation system	Integration mechanism	Rate of return on investment from private companies
			Smoothness of institutional mechanism for military-civilian integration
			Completeness of laws and regulations
			Integrity of logistics supply chain
			Effectiveness of management methods
Learning and growth	Improve the capability of sustainable development in the future	Integration prospects	Supplier evaluation index
			Implementation of policies
			Percentage of private companies qualified for access
			Output value of private companies qualified for access
			Percentage of project contracts undertaken by private companies in terms of quantity
			Percentage of project contracts undertaken by private companies in terms of value
			Number of personnel for military-civilian integration
			Percentage of personnel receiving trainings

#### 4. Conclusion

Balanced score card (BSC) is a tool for comprehensive strategy management and organizational performance assessment. After being introduced into the assessment of integrated military-civilian logistics support in the army, it can be combined with the strategic objectives of integrated military-civilian logistics support from four perspectives to form an internal logical system, so that the strategic elements can be clearly identified in the logistics of the army, and successfully convert strategic planning into all kinds of specific schemes. The findings in this study will provide new ideas and research pattern for assessment of integrated military-civilian logistics support in the army.

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