

# Study on Systematic Structure of Modern Regional Logistics Industry

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**Abstract** The modern logistics has become one emerging, multi-skill foundational industry form of national economy. By analyzing the relationship between regional logistics system and regional economy system, this article proposes that modern regional logistics system is composed of the main body, the object and the carrier of regional logistics enterprise. It constructs a complete system of regional logistics, which should consist of one main body of logistics, two support systems, two foundation platforms, and five kinds of logistics patterns.

**Key words** regional logistics, systematic structure, support system

## 1 Introduction

As an advanced organization way and management technique, modern logistics has been recognized as an important profit fountainhead; it can reduce commodity consumption, improve the labor productivity in the global economic scope widely; it also plays the influential role in the regional economies and the social development. The modern logistics is the special multi-skill industry shape which connects closely with other industrial,<sup>[1]</sup> it has an important foundational industrial status in the national economy and the industrial structure, the level of its development becomes an important symbol which can measure the area and regional mixed economy strength and the modernized level.<sup>[2]</sup>

## 2 The Relationship between Regional Logistics and Regional Economies

Regional economies is the cluster economy, it is formalization production that gathered the stream of people, the commercial interchange and the capital current and every kind of element of production gathers in the together, its characteristics are produces the batching and the continuity. However, the accumulation is not the aim; the gathered element is for the commodity proliferation. Therefore, the reasonable logistics system is playing a foundational role in the development process and the basic revolution of regional economies and the realization of commodity value and use value.<sup>[3]</sup> Regional logistics is in certain regional geographical environment, as the center of the large and middle scale cities, takes the regional economies scale and the scope as the foundation, combines the range of validity of logistics radiation, carries each kind of goods of region inside and outside from the supplying place to acceptance, it is an effective entity flowing; According to the condition of regional logistics infrastructure, organically link up the road, the railroad, the aviation, the water transportation and the pipeline transportation and so on many kinds of transport ways and the logistics node, organically integrated transport, storage, attire imperial transporting, packing, circulation processing, allocation and information processing and logistics basic activity, serves the regional economic development , enhances the level and the efficiency of regional logistics activity, expands scale and the scope of logistics activity, radiates other regions and enhances the mixed economy strength of this region.<sup>[4]</sup> The development of the regional logistics industry can further bring accumulation of the commercial interchange, the fund class, the information flow, the technical class, reduce the transaction cost of the regional economies movement, speed up reasonable adjustment of the regional economies structure and the industrial layout, lead the development of the local and regional economies.<sup>[5]</sup> The development of modern logistics changes the growth way of the regional economies, promotes the formation of the new industrial shape, optimizes region industrial structure, and promotes the formation and development of the regional market which takes the city as the central.

## 3 The Base Element of Regional Modern Logistics System

Looking from the object of logistics service, a flow of goods among industry, agriculture, business industry and so on, between enterprise and enterprise, enterprise and government, enterprise and consumer, local and local, national and the national and so on, they cannot leave the logistics service.<sup>[6]</sup> Therefore, the object's universality of logistics industry has established the target client of logistics industry.

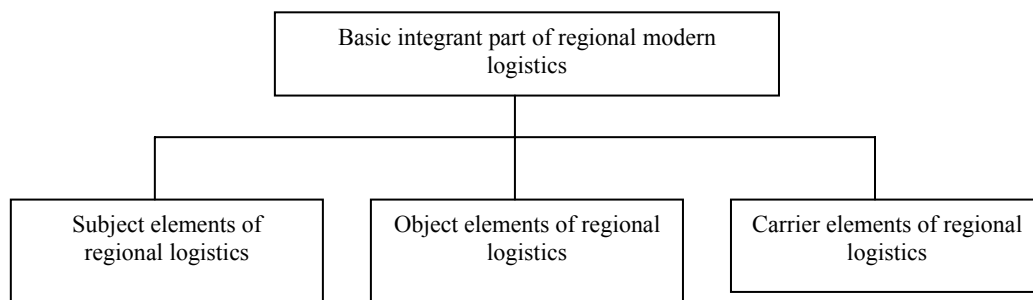
Looking from the relation of industrial, there are logistics infrastructure industry (for example road,

railway, port, airport etc.), logistics equipment manufacturing industry (for example freight transportation automobile, train, steamboat, pipeline, container and other related manufacturing industry), they are closely related with the development of logistics industry, the development of these industry is directly connected with the efficiency and the benefit of modern logistics activity and the scope and the scale of service market .

Looking from the angle of industrial layout, the development of industrial must fulfill in certain space. The plan and the construction of logistics collection and distribution about logistics base, logistics center, allocation center, freight, port, trading market and so on, it is the spatial arrangement of logistics industry in different local and the urban.

Therefore, the constitution of logistics system is multi-level and multi-dimensions; its basic element includes logistics main body (logistics enterprise), logistics object (logistics service object) and logistics carrier (logistics infrastructure, for example, railway, road, sea route, airport, port and logistics operation equipment, for example, automobile, steamboat, train and so on).<sup>[7]</sup>

According to the above analysis, the basic constituent elements of regional modern logistics are composed of subject of logistics, logistics object and logistics carrier, as shown in Figure 1.



**Figure 1 Basic Integrant Part of Regional Modern Logistics**

Subject elements of regional logistics refer to the logistics organizations that specially provide logistics service to logistics market, including the third party logistics enterprise, transportation enterprise, warehousing enterprise and so on. These enterprises can provide synthesis delivery service, specialization delivery service or functionality delivery service to the region, the center city, the cross region or the international logistics market (logistics service object).

Object elements of regional logistics refer to the demand of logistics service, which is the demand among the regional industry, agriculture, business industry, between enterprise and consumer and so on. Because of the difference in the regional industrial gathering and distribution, the market distribution, the industrial structure, the connected difference of industrial, the goods type, flow direction, flux, therefore, the demand characteristic of logistics service is different too. This kind of difference displays that the function layout and the spatial arrangement of regional logistics industry exist difference and the difference of logistics service pattern.

Carrier elements of regional logistics mainly refer to the regional transportation infrastructure condition; this is the essential condition and the platform that the regional logistics activity must rely on. Therefore, road, railway, airport, port, the layout of route and the rationalization of network, which directly influence the operation efficiency of regional logistics system and the spatial arrangement of regional logistics node.<sup>[8]</sup>

#### **4 The Systematic Structure of Modern Regional Logistics Industry**

From the angle of industrial economy analyzes that the regional logistics industry is the essential important foundational industry in the regional economies development.<sup>[5]</sup> Therefore, the industrial policy and the policy system constitutes is the constituent of regional modern logistics system.

The construction of regional logistics information system is the essential information network condition and the platform, which realizes the logistics activity integration and the efficiency of regional logistics, which also constitutes the constituent of regional modern logistics system.

Therefore, looking from the angle of logistics industry, the complete systematic structure of regional modern logistics is constituted by “a main body, two systems, two platforms, five kind of patterns”, as shown in Figure 2.<sup>[9]</sup>

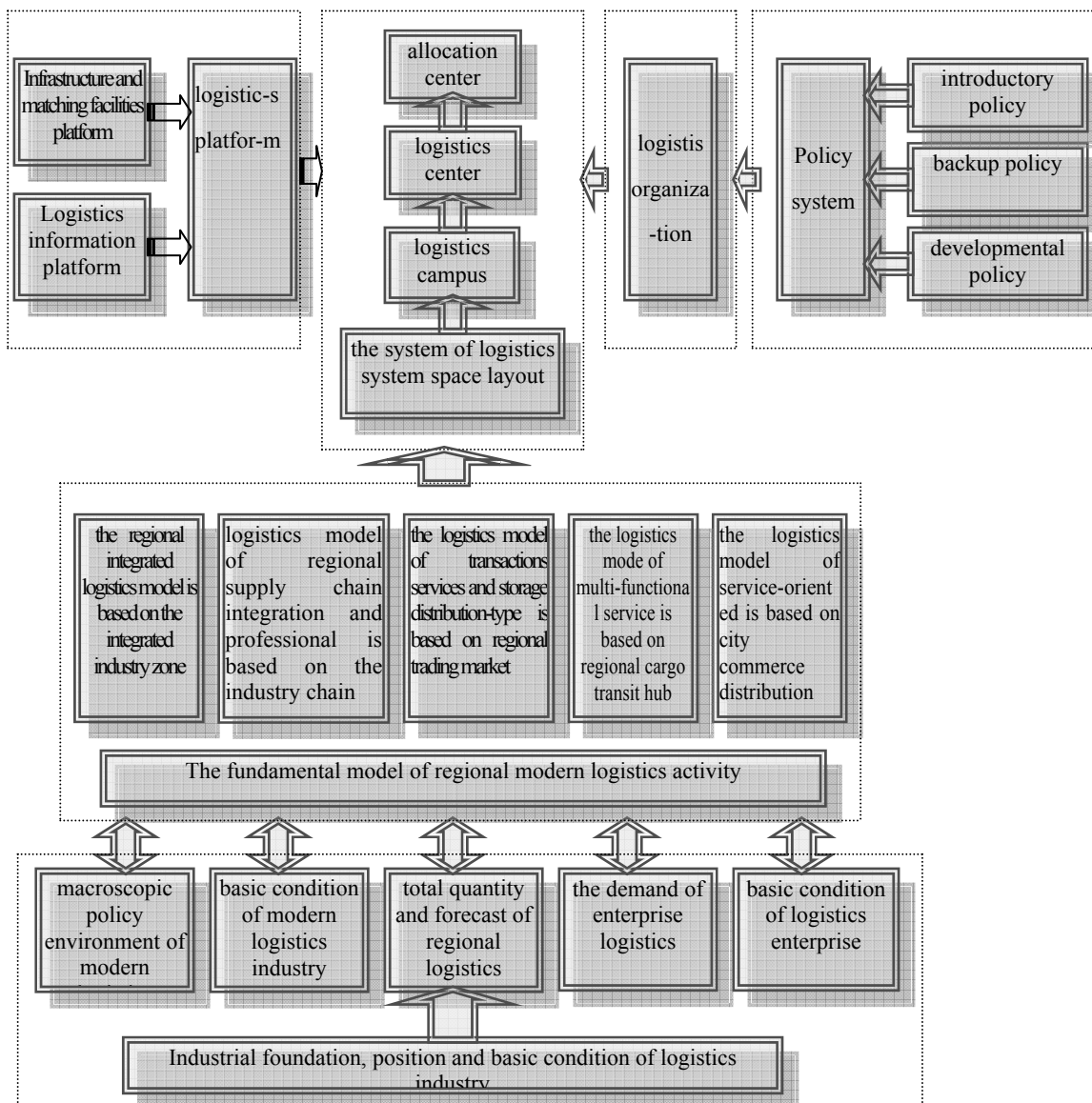


Figure 2 The systematic structure of Modern regional logistics industry

**“A main body”**——the main body of logistics enterprise

The logistics enterprise is the main body of modern logistics industry development, the development of modern logistics enterprise is the core of logistics industrial development.

**“Two systems”**—— policy system, logistics network nodes system

Policy system includes backup policy, introductory policy and developmental policy.

The backup policy system is designed to provide development policy foundation for the regional logistics industry. It mainly includes normative logistics market behavior, government investment, enterprise financing, land, taxes and fees, transportation management and so on.

The introductory policy system is designed to provide rational development policy environment for the logistics industry. It embodies in guiding the rational division of different zones logistics industry; Guiding the reasonable plan of logistics node; Solving the question which is brought by this kind of commercial operation system “is big and complete, is small but complete” of industrial and commercial enterprises, enhancing the operation level of business logistics; Guiding traditional transportation warehousing enterprise turns to developing modern logistics; Guiding logistics enterprise orderly

develop under the instruction of government's macroscopic plan. The underlying policy includes spatial arrangement guidance policy, optimizing logistics industrial structure guidance policy, industrial and commercial enterprises peel logistics operation and so on.

The developmental policy is designed to provide a policy guidance of industrial upgrading for the logistics industry. It mainly includes encouraging the major logistics enterprise to grow bigger and stronger, introducing the policy of the domestic and foreign first-class logistics enterprise and so on.

The logistics node system, according to the regional or center city's industry, transportation, goods flow and other factors, according to the division of logistics node and the function, constructing the logistics network node system of multi-function, multi-level (logistics campus, logistics center, and allocation center).

Usually, the logistics campus is formed by many different type logistics businesses, which professionally engage in logistics service, have many kinds of logistics facilities, which is relatively centralism distribution in the space, its logistics radiation scope is widespread (covering: the urban scope, the area scope, the international scope), it provides the formalization, the intensified large-scale logistics service and the logistics node of comprehension service function. In the space planning, logistics campus locates outside the intermediate belt of center city, nearby outer ring.

The meaning of logistics center and logistics campus is basically similar, the main difference lies in the scale of logistics center is smaller than the logistics campus', the specialized characteristic of logistics service domain is prominent, and geographical position approaches the city exposing the logistics campus. In the space planning, logistics center gathers nearby the intermediate belt of center city and the gathered industry area.

The allocation center is specialized logistics active node; its characteristic is service the urban business, small batch and many raid of goods allocation logistics activity. Allocation center take storage and allocation as its main logistics service function, service domain focused on urban business industry, range of service focused on city. In the space planning, allocation center is inside urban intermediate belt, outside inner rim.

**“Two platforms”——infrastructure and matching facilities platform, logistics information platform**

Infrastructure and matching facilities platform includes port, and airport, road, railway and freight yard and logistics campus, and logistics center and so on. The construction of the logistics infrastructure and the matching facilities platform is the hardware foundation and condition of the regional modern logistics development, integrates and improves regional modern logistics infrastructure, enhances the effectiveness and freeness of logistics activity.

Logistics information platform includes public logistics information platform, special-purpose logistics information system, logistics enterprise information platform and logistics node information platform (logistics campus, logistics center, allocation center). Logistics information is the essential factor of logistics activity. Therefore, building open multi-purpose and multi-level comprehensive logistics information platform is the prerequisite about guaranteeing the regional logistics development.

**“Five kinds of logistics development pattern”**——The regional integrated logistics model is based on the integrated industry zone, it takes the industrial accumulation area as background, takes the industrial organization of industrial accumulation area as the main object of logistics service, it is modern logistics pattern that provides the regional logistics service. The comprehensive logistics (campus) pattern, the logistics enterprise gathers, it provides the complete logistics service function, the port function and so on; the service domain is widespread, logistics radiation scope covers urban scope, area scope, and international scope.

Logistics model of regional supply chain integration and professional is based on the industry chain, it is industrial chain which forms surround the leading industry, and it has the relative stabilization supply chain logistics relations. Taking it as the background, regional logistics activity should stand out the integrated characteristic of supply chain logistics activity. This pattern has complete service function, the port function and so on, the logistics domain is the related industrial base, and logistics radiation scope covers city, region and international.

The logistics mode of multi-function service is based on regional cargo transit hub (port) which apply to customers, inspection service and logistics action are integrative, it takes the region special geographical position (for example harbor and so on) as the foundation, it is logistics activity accumulation area that undertakes the cargo terminal function in and out of the region, takes the mass cargo collection and distribution as the chief feature of logistics activity, provides storage, multi-way

through transport and custom, commodity inspection, zoology and botany examine, health quarantine, goods agency and ship agency, insurance and so on. Logistics radiation scope covers region and international.

The logistics model of transactions services and storage distribution-type is based on regional trading market, under the background of formed regional commodity exchange market; it is one kind of logistics pattern that unifies market transaction service, storage and goods allocation and so on. It depends on the professional market, commercial flow promotes logistics and provides complete logistics function, the service domain is primary with the related professional market, logistics radiation scope covers city, region and nation.

The logistics model of service-oriented is based on city commerce distribution, this pattern is primary with service the urban business industry logistics activity; the main logistics service function is storage, allocation. Range of service by city primarily.

## 5 Conclusions

The modern logistics industry is an emerging industrial shape, under the environment of economic globalization, the development of regional economies has proposed the new request to regional logistics industry, at the same time, regional logistics system is the important component of regional economic system, therefore, studying the systematic structure of regional logistics industry has the important strategic meaning to the development of regional logistics industry and the development of regional economies.

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