

# Research on emergency information system platform based on supply chain and strategic alliance

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## Abstract

The idea of emergency information system platform can solve the problem of information fragmentation to a certain extent, as an auxiliary tool to deal with emergency events. The platform can reduce the time cost and reduce human resources to provide timely assistance for rescue efforts, data integration can be grouped to maximize utility.

## Keywords

Emergency information system platform, Strategic alliance, Supply chain management.

## 1. Reserach Purpose

In 2020, the newl coronavirus will test the national emergency response system. Article 19 of the "14th Five- Year Plan" for the construction of the national emergency response system mentions that the country should expand the investment space, optimize the investment structure, and increase the construction of major projects with strong foundation, increased functions and long-term benefits, such as public health emergency support. Article 51 refers to the need to protect the safety of people's lives, improve the national emergency management system, and strengthen the construction of emergency supplies system.(People's Daily 2020)

According to the 14th Five-Year Plan for the construction of national emergency response system, the construction of emergency information system platform has become an important task. It is pointed out that emergency management involves various fields, and the perfection and integration of information in different fields will bring great benefits to emergency work. It is urgent to establish an emergency information system platform integrating information monitoring and warning in different industries in China.

## 2. Significance of The Study

From the perspective of strategic alliance and supply chain, this study proposes ideas for the information flow of emergency information system platform, and solves the information flow problems of inventory control, logistics management, procurement management, supplier management etc. This study also considers the problem of information asymmetry in different fields in the allocation of emergency resources and provides some theoretical support for the construction of emergency responsesystem.

## 3. Reserach and Development Trend at Home and Abroad

Qian(2020) believes that the emergency management information system should be based on big data, artificial intelligence and other information technologies, with functions such as timely response to emergencies, information sharing of emergency resources and unified command and coordination. The design of intelligent information platform for comprehensive planning and optimization of emergency management should firstly solve the related supporting

mechanism problems such as data resource sharing and data resource security.

#### 4. The Reserach Methods

This study adopts two new strategic ideas of strategic alliance and supply chain management, combined with the existing research on the emergency information system platform in China, puts forward some ideas for the construction of emergency information system platform.

Strategic alliance refers to a cooperative interest community established by two or more enterprises to achieve a certain strategic goal, which is the embodiment of competitive and cooperative strategy ( Meng 2019) Supply chain management is around the core enterprise, through the control of information flow, logistics, cash flow, starting from the procurement of raw materials, made of intermediate products and final products, and finally by the sales network products to consumers' hands will suppliers, manufacturers, distributors, retailers, until the end user together as a whole function nets chain structure (Chen 2019).

This paper will adopt literature method, benchmarking method, value chain analysis and other methods. Combined with national policies, laws, 24 journal articles in Dallas, American emergency management legislation and BCP application guidelines for small and medium-sized enterprises, a comprehensive analysis and collation was conducted. Through the chart and analytical way to analyze the material, put forward countermeasures.

#### 5. The Main Content

Based on the theoretical perspective of the emergency science and engineering knowledge system this study firstly analyzes the contents that should be included in the database of the emergency information system platform. The data to be included in the system is divided into tangible resource data and intangible resource data according to their sources. The two types of data are further divided. The data sources of tangible resources include human resources, material resources, medical resources, etc. The data sources of intangible resources include knowledge resources, administrative regulations etc.

The data source	Tangible resources	Intangible resources
	The human resources	Knowledge resources
	Material resources	Administrative rules and regulations
	Medical resources	Technical resources
	...	...

Secondly, find corresponding industries according to data resources, encourage industries to form horizontal strategic alliances and accelerate the transformation of supply chain management. In other words, encourage enterprises to establish honest, reliable, benefit sharing platform and relationship network.

For enterprises, in the context of global economic integration and heterogeneous consumer preferences enterprises can rely on strategic alliances to enhance their core competitiveness. Strategic alliance partners can also share the risk of r&d. Horizontal alliance refers to strategic alliance between enterprises and industrial clusters. For their part, governments can encourage the emergence of strategic alliances that enhance research and development of new technologies and knowledge management. Urge the industry to regularly collect data, establish a database of

emergency management resources, and set up contingency plans to deal with emergencies. The government needs to manage the information system, organize and coordinate each strategic alliance, further integrate the fragmented information in the strategic alliance, reduce the distortion and asymmetry of information, and ensure the hierarchy, continuity, consistency and compatibility of information.

Jiang and the others (2020) put forward a study of BCM emergency supply chain system based on government dominance. Combined with China's national conditions, this paper establishes a government-led BCM emergency supply chain system, which consists of operation continuity plan, risk analysis, business impact analysis, BCP, business recovery plan, data acquisition and analysis. This research assumes that the market economy is the dominant, and the government encourages core enterprises to form a network chain structure with raw material suppliers, wholesalers, distributors etc. In case of major emergencies, the company can directly contact the core enterprise to coordinate the reserve, supply and demand and scheduling of emergency supplies with the help of the supply chain of the core enterprise itself.

Take masks as an example, mask manufacturers can establish strategic partnerships with non-woven material manufacturers, PP non-woven materials, packaging cartons, lugging materials and other enterprises. When the wholesaler places an order, the manufacturing order directly drives the purchase order, and the supplier can directly obtain the information of the goods to be provided. As a result, the supply chain system can respond to user needs on time, reduce inventory costs and improve logistics speed and turnover. In addition to procurement, supply chain system can also improve logistics management and inventory management.

Finally, the tentative idea of establishing emergency information system platform is put forward. The platform is mainly used for statistics of data and information. With the help of market economy, the government can solve the problem of information fragmentation in emergency management and perfect the national emergency management system.

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