Analysis of Emergency Management Strategy of Material Supply Chain Based on Internet + in the New Crown Epidemic

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Abstract. The outbreak of COVID-19 has highlighted the current shortage of supplies in emergency situations in China. It caused serious damage to the life of our people and the development of social economy. Transportation is not smooth and then lead to the contradiction between material demand and supply. To solve this problem, we need to improve the perspective of solving the problem, stand at the height of the entire supply chain, and make the supply chain thinking and Internet technology highly integrated, so as to improve the ability to respond to emergency situations.

Keywords. COVID-19, The entire supply chain, Supplies in emergency situations, Internet +.

1. Introduction
At the end of 2019, a sudden outbreak of new coronal pneumonia caused serious damage to the life of our people and the development of social economy. The emergency incident resulted in a significant increase in transport demand with a high concentration of time and location. Transportation is not smooth and then leads to the contradiction between material demand and supply, one side because of material shortage, price rise, and the other side of the goods backlog, cannot sell, masks and other medical items are even more difficult to obtain [1]. Agriculture, the manufacturing and service industries are greatly affected, which brings great losses to our economy [2]. In the face of such emergencies as the new crown epidemic, it is necessary to examine the operation of the whole emergency logistics from a wider perspective of supply chain, and to think about emergency management strategies with the help of new technologies such as the Internet, so as to enhance the ability to deal with such emergencies.

2. Analysis of Current Emergency Logistics Management Issues
2.1. Inadequate Early Warning Mechanisms
Prior to the emergency logistics management more focus on the emergency response after the occurrence of emergencies. From the discovery of 27 patients in Wuhan at the beginning of December 19, to the attention of the people, after nearly 20 days, to the transmission of information to all parties in the supply chain, the time is longer. This shows that the early warning awareness of risk is not strong, or even some lag [3-4]. This is not only about human consciousness, but also about technical and technological limitations. If we can predict natural disasters such as earthquakes and typhoons, we can say that other people's disasters can be regarded as a lifesaving artifact to deal with emergencies in the future. An efficient early warning system should be set up before the emergency event, the risk
analysis should be carried out for all enterprises in the supply chain, and the key node problems should be identified, and appropriate prevention and management strategies should be formulated to achieve timely prevention, control and forecast.

2.2. Low Response Efficiency and Lack of Monitoring and Evaluation System
The occurrence of emergency events requires a highly responsive emergency mechanism, through the corresponding implementation of rapid operations to avoid further expansion of harm. At present, the response efficiency of emergency response is low, the reasons may lie in the departments involved in their own affairs, staggered responsibilities, mutual prevarication, personnel initiative awareness and professional literacy is not strong, business process convergence is not close, handover work redundant, information exchange is not smooth and so on [5-6]. In addition, the emergency planning and emergency system is biased to guide, not deep into the specific logistics operation agencies, poor operability, so that the problem is further increased. At the same time, the good operation mechanism must be based on the perfect supervision mechanism, and the supervision, control and evaluation in the operation process of the traditional emergency logistics events are easy to be ignored because of the urgency of time.

2.3. Inadequate Emergency Stocks and Uneven Transport and Distribution Facilities
From the government's point of view, at present, except for a few areas, many areas have not established a reserve bank for emergency necessities of life, that is, the place where the reserve bank is established, and the reserve variety is also very limited, so it is difficult to meet the basic living and medical needs of the people under sudden conditions. The occurrence of emergency events such as epidemic situation will lead to the sudden increase of transportation demand and the high concentration of time and geography distribution. Although China's transportation network has been basically mature, but inevitably there are regional differences, especially in underdeveloped areas and some geological complex natural disaster-prone areas will be worse conditions. The occurrence of unexpected events further causes road closure or congestion, and the utilization rate of railway roads will be reduced, and the efficiency of logistics supply and distribution will be reduced, which will affect the basic living material support in the region.

3. Analysis of Emergency Management Strategy of Material Supply Chain Based on Internet +
Through the analysis of the above problems, it is found that the key to solve the problem lies in changing the perspective of solving the problem, that is, integrating the perspective of supply chain from a higher level, to conduct a comprehensive re-examination of the various links of material supply logistics, in order to change the problems of material supply links are not closely linked, information exchange is not smooth and so on. And the completion of this process can’t be without the support of new science and technology such as Internet +. Only by realizing the deep integration of supply chain and Internet, and innovating and developing new ideas, new technologies and new models of supply chain, can we efficiently integrate all kinds of resources and elements and realize the intelligent supply of network sharing and intelligent cooperation supported by big data. The basic ideas for solving problems see figure 1. The detailed analysis of the solution strategy is as follows.
3.1. Establish a Large-scale Integrated Data Centre
Establish a large-scale integrated data centre with close integration of medical information, material supply enterprise internal information, material demand information and transportation and logistics information. Mobile phone Internet, Internet of things, car networking, including wearable devices, various smart hardware, have more real-time broader data acquisition capabilities than PC Internet. This can extend desktop PC business to mobile terminals more broadly and comprehensively, thus helping to improve the accuracy, timeliness and comprehensiveness of data collection [7]. Through the use of big data technology to break the medical department, material demand department, material supply department, supplier interaction on the time and space barriers, so as to achieve all-weather and all-site information smooth and coordinated operation. All-weather real-time medical information summary, material demand forecast, real-time order tracking, online material collection and real-time logistics tracking of the whole process, help to realize the linkage of demand and supply, reasonable planning of transportation and distribution, and open a green channel for emergency material logistics. Thus, significantly improve the overall operational efficiency of the material supply chain.

3.2. Analysis and Prediction of Relevant Data Based on Big Data Technology
Analyze the medical information of patients through big data technology, so as to find the characteristics of symptoms and accumulation, to provide good support for early warning of epidemic situation. Storing and analyzing the records of family members, age, general purchase or browsing of material demanders, can help to predict consumers’ general demand for materials in emergency situations, so as to provide general prediction of material inventory requirements and basic material gap information for manufacturers [8]. By integrating and evaluating the relevant information of suppliers and manufacturers, using big data technology to budget the quantity of supply and so on, so as to plan and control the actual production and purchase, so as to avoid the excessive or insufficient quantity of production or purchase, thus bringing about the decline of economic benefits; using big data technology to quickly and accurately know the detailed location of the goods when the goods need to be out of the warehouse and improve the speed of getting out of the warehouse; using big data technology to analyze the receiving address of consumers after shopping, so as to help the warehouse to deliver goods nearby and save time and distance; Track and distribute vehicles through big data technology, and then carry out route planning and coordination, avoid congestion and unobstructed of individual routes, and reduce the efficiency of supply.
3.3. The Entire Supply Chain Structure Should Be Streamlined to Avoid Redundancy
The entire supply chain structure should be streamlined to avoid redundancy in order to save time for conversion and interaction between the various organizations in the operation process, and parallel management across enterprises should be adopted as far as possible in the areas of procurement, production, manufacturing, transportation and distribution in order to achieve rapid response, efficient communication, common collaboration and positive response. Implement the technological innovation of Internet + supply chain, establish a four-in-one management mechanism of "data gathering based on palmtop APP and Internet of things ", " big data forecasting demand and stock preparation ", " intelligent warehousing self-service material collection ", " quick distribution whole process tracking and planning ", and then realize multi-domain interaction, quick response and high cooperation.

3.4. The Application of Internet + Supply Chain Technology Makes every Link Follow
The application of Internet + supply chain technology makes every link follow, thus laying a good foundation for real-time supervision and later evaluation. Using cloud computing and other high-tech to extract the key information and links to analyze, to help find out the weaknesses in the whole supply chain process, to improve and improve, to provide early preventive measures for the future emergency management. And because participants know that their behavior will be recorded, it will also improve the caution and enthusiasm of their participation, and lay a solid foundation for the good handling of emergency situations, and the later reward and accountability system will also improve the enthusiasm, caution and effectiveness of the participating departments.

4. Conclusions
The compressive capacity of the supply chain depends on the most vulnerable key nodes on the supply network. Once the key nodes fail and fail, the supply chain will fail. At present, the supply chain management problem under the new crown pneumonia is faced with the breakthrough of technology. It is necessary to reconstruct the supply chain with the thinking of Internet +, to ensure the interconnection and interaction of each link, and to ensure the consistency of cooperation before and after and the efficiency of material supply provides the basis for overcoming the sudden emergency situation.

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