

Research on the Information Platform Establishment of Logistics Services Supply Chain from the Perspective of Tripartite Coordination

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Abstract. At present, there is a contradiction between the development of logistics industry and the growth of logistics demand in China. This paper intends to build a logistics services supply chain information platform dominated by logistics service integrator. This paper analyzes the feasibility of constructing the information platform of logistics services supply chain from the perspective of the coordination of three parties of the logistics service. The objectives of the platform include the cost decrease and performance improvement. Then, the paper points out the methods of the design of the data acquisition module, the intelligent analysis module and the user access module to provide some references for the relative researchers.

Introduction

China has become the manufacturing center of the world in recent years. The domestic enterprises have to form a strategic partnership with foreign enterprises. Therefore, it is necessary to vigorously develop the logistics service industry, so that the global logistics. Although the existing theories of modern logistics a lot of research, but the level of China's logistics development is still far behind the developed countries, and to find a feasible way to improve the overall level of China's logistics, the logistics industry of our country can leapfrog development, without a long path of development logistics go to Europe and the United States. At present, there are many successful cases of application, that has strong vitality, and the construction of China's logistics infrastructure is becoming more perfect, and vigorously support the development of the logistics park, to provide strong support for the development of logistics service industry. If the introduction of scientific and reasonable, efficient logistics operation mode, will help our manufacturing enterprises focus on their core competitiveness, reduce logistics costs, but also to promote the sustainable development of logistics services. Therefore, this paper is mainly based on the integrator's point of view, the logistics enterprises of small and medium sized single function, low level of utilization of scientific and reasonable logistics service integrators integrated management concept, can give full play to the logistics facilities and equipment of the utility, to avoid duplication and transition of the logistics investment, improve China's circulation environment and image, to provide guidance and practice management the domestic logistics enterprises. Logistics service supply chain is not only a special form of service chain, but also a value chain with value added effect. Establishing a harmonious logistics service supply chain information platform is beneficial to all the enterprises in the supply chain.

Feasibility of Information Platform Establishment of Logistic Services Supply Chain from the Perspective of Tripartite Coordination

The function of logistics service integrator is to integrate and decompose the demand information, so as to find the matching logistics service provider. This ability to analyze and process large amounts of data to provide support for the construction of information platform. Moreover, it also forced through the construction of limited resources to achieve maximum logistics cost within the scope of the centralized information system perfect and efficient, fully coordinated relationship between supply and demand, ensure logistics activities smoothly, consolidate and enhance the competitiveness of the supply chain logistics service. Logistics service supply chain is not only a

special form of the service chain, or a value chain has the value-added effect, depending on the product supply chain exists, its efficient operation can shorten the goods in transit time, prolong its shelf life, to quickly seize the market, win the initiative. Therefore, the effective coordination of the nodes on the chain can guarantee the good operation of the logistics service supply chain, and it is also one of the key factors to ensure the sustainable development of logistics service supply chain. According to the relationship between members of the supply chain logistics services, logistics service supply chain coordination can be divided into four aspects between logistics service integrator and customer coordination, logistics service integrator and functional logistics service providers, coordinating functional logistics service providers' coordination and functional logistics service provider and customer coordination. More and more enterprises participate in the practice of supply chain management, and they also need to integrate all kinds of supply chain management system in order to improve the whole supply chain. At the same time, through the supply chain management practice, the organization structure and management mode of enterprises have been adjusted in accordance with the requirements of supply chain management. It makes the information platform for logistics services more feasible.

Objectives of Information Platform of Logistic Services Supply Chain from the Perspective of Tripartite Coordination

Reduce Cost. Logistics services include transportation, warehousing, distribution, handling, packaging, information processing and product processing, and many other links. Through the integration of historical data, using linear and nonlinear programming, dynamic programming and integer programming mathematical model, using correlation analysis, statistical analysis, model and method of neural network and genetic algorithm in data mining, transportation and distribution of warehouse location, path planning, inventory planning, customer service goal planning issues such as decision making, logistics link from unreasonable, so as to reduce inventory, reduce cost, shorten the order cycle, find the way to improve the efficiency in time and space. From a business perspective, the grid can help enterprises make full use of internal and external idle resources, the formation of computing power than expected, making enterprise investment in IT has a higher rate of return; from the perspective of the whole supply chain, realize the sharing of the information grid node can make information flow more quickly, efficient, avoid or reduce the delay between each link, reduce the cost of whole supply chain; from a technical point of view, the ability to integrate computing resources, information resources with the supply chain management is needed, and the supply chain based on grid scale is relatively small, so the difficulty is reduced a lot. Therefore, the enterprise has the power to promote the development of the supply chain. The supply chain to grid computing grid based supply chain enterprises within the scope of each node using the grid technology, computing, information resources effective integration, information collection, transmission and conversion of format information in between nodes and information. The construction of logistics service supply chain information platform can help reduce the cost of supply chain.

Improve Performance. Around the core enterprise and through the control of the information flow, the supply chain is the overall network chain structure starting from the procurement of raw materials, intermediate products and final products are made, finally by the sales network products to consumers, suppliers, manufacturers, distributors, retailers and final customers as a function of. Supply chain management is to meet the needs of customers, in the process from raw material to finished products, in order to obtain the effective material transport and storage, high quality service and the related information for planning, operation and control. The basic data we can use data for decision analysis of supply chain grid to collect all kinds of business execution process, and then select the corresponding decision support algorithm for computing, provide the final decision scheme required for advanced users. Three party logistics supply chain information platform evaluation and analysis of logistics service performance, logistics risk timely warning. We find out their advantages and disadvantages, put forward the improvement and improve measures, shorten order delivery lead time, response time, improve the quality of service, analyzed the market situation the business

situation, ensure the enterprise formulate correct development strategy and measures in the complex market environment. Tracking customer sales data and inventory status, to help customers make sales forecast, which can predict the final customer diversification and the personalized demand, improve customer service response speed, accuracy, order processing cost. At the same time, provide information inquiries and other value-added services to our customers, for the enterprise external users such as suppliers, distributors and end customers to provide timely and effective information resources. Their value can be obtained through information sharing.

Structure Design of Objectives of Information Platform of Logistic Services Supply Chain from the Perspective of Tripartite Coordination

Module of Data Acquisition. Data source is the basic source of data warehouse. The information platform is designed and developed based on the idea of data driven. It can be seen from the statistical information of each member enterprise's basic business data and industry by hand by extracting useful data collection. Some macro external data can be obtained from the internet. Most of these data sources exist in two forms: relational databases and text files, and they can be cleaned with appropriate methods to ensure the correctness of the data. Data warehouse is a subject oriented, integrated, stable, historical data collection. We use the related tools to ensure the consistency, accuracy, comprehensiveness and ease of use of the data, and automatically generate a unified and reliable data warehouse. According to the various members of the enterprise decision-making needs of different size of data, the combination of different dimensions, the data warehouse into specific business areas related to transportation, warehousing, distribution, performance evaluation, customer relationship and risk management of the data mart, for a variety of multi-dimensional analysis and data mining decision support scheme to provide uniform data. All kinds of data according to manufacturing enterprise logistics service integrator announced, logistics operations planning, and based on the assignment of each functional platform database type logistics service provider with the resources of logistics and the logistics task status accurately. The openness and transparency of this kind of data information is helpful for the overall planning of logistics tasks, to ensure the high quality and high level of logistics service. At the same time, it also coordinates the relationship between logistics service integrator and functional logistics service provider.

Module of Intelligent Analysis. We use the query, analysis, data mining and on-line analysis management analysis tools for processing information to help customer customization, generate reports and analysis application. We make the data transform into decision-making information, and the information in an appropriate way to show in front of the decision maker. First of all, through the query and statistics module, according to the flexible query conditions and their combination, provide all kinds of information index and statistical charts for system managers at all levels, especially due to sudden and temporary emergency, can generate statistical reports. The module is simple, friendly, easy to use, and the information can be presented in the form of electronic forms, histograms, pie charts or broken line trend charts and other forms. Secondly, using the data mining module, artificial intelligence, machine learning, statistical analysis and so on, identify potential patterns, rules or relations from a large number of data, the decision maker to adjust the marketing strategy to help enterprises, predict customer behavior, reduce risk and make the right decisions. Next, through the establishment of various types of logistics decision model of vehicle routing model, logistics distribution network model, set model, facility location model, global positioning system model to realize the interaction of logistics business analysis, and provide reasonable solutions for integrated logistics operation. Finally, with the help of the module, analysis personnel, management personnel do the transformation from current and historical data in the original data from a variety of angles. The formation of a true reflection of data dimensionality of the information can be truly understood by the user, and to achieve the data fast, consistent, interactive access, so as to gain a deeper understanding of data. We can also use the data mining tools and statistical analysis tools to enhance the function of decision analysis.

Module of User Access. When the terminal user application of the business intelligence decision making, according to the festival a few pages of information, submit service requests from the browser to the application server, the request includes query reporting statistics, multidimensional data analysis and data mining research, research work to complete the generation of server page, the system provides flexible use, at the same time provide management interface system, and application server using the model and algorithm of processing the request, and the data warehouse in the necessary access, extract the relevant data and information, and finally the results will be returned by the server browser. The heterogeneous characteristics of the information platform are mainly reflected in the geographical distribution, heterogeneity and autonomy of the data source. Different enterprise information platform, the data source may be distributed in different regions, the data source of the hardware environment may be different, the use of operating system on the hardware platform may be different, in the operating system is different from database management software, using the data management system of data model may be hierarchical, network, relational object oriented type, object relational, and different data formats, storage and access control strategy etc.. Data sharing and interaction in the process of constructing virtual supply chain. The application service provider allocates a database for each enterprise, and the enterprise implements the required software function by selecting the standardized component. Logistics service integrator and customer coordination is the coordination of a feedforward, essentially belongs to the coordination of the supply and demand, the core is constantly to meet customer value creation based on customer demand, gradually realize long-term stable cooperative relations. Enterprises can configure the access rights of other enterprises to achieve data sharing and interaction. These are very good to meet the requirements of multi supply chain information platform.

Conclusion

This paper analyzes the feasibility of constructing the information platform of logistics service supply chain from the perspective of the tripartite coordination. Based on the objectives analysis of the platform, this paper discusses the method and principle of the establishment of the module of data acquisition, the module intelligent analysis and the module of user access in the supply chain information platform. The smooth implementation and operation of the information platform also need the establishment of the relevant auxiliary mechanisms, such as information sharing mechanism, logistics service quality supervision mechanism, logistics service provider selection mechanism and so on. When we introduce these auxiliary mechanisms into the information platform, the platform can realize the authentic cooperation of three parties.

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