공급망 재고관리시스템의 의사결정모형

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Decision-making Model of Supply Chain Inventory Management System

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요 약

공급망의 빅데이터는 주로 네 가지 측면에서 발생된다. 하나는 생산 장비 품질 데이터, 계획된 조달 데이터, 제품 데이터 등과 같은 공급망에서 기업의 제품 가치 이전 과정에서 불가피하게 생성되는 관련 데이터이고, 두 번째는 공급망에 있는 다양한 회사의 ERP 데이터에서 파생된다. 세 번째는 고객의 전자 상거래 데이터이고 마지막은 외부 또는 수동으로 입력한 데이터의 데이터이다. 따라서 본 연구를 통해서 공급망 운영 과정에서 재고를 예측하고 제어하기 위해 타사 데이터 서비스 센터 분석 및 데이터 마이닝. 그것은 여러 측면에서 전체 공급망에 혁신과 관리 기술 및 사고방식의 변화를 가져오고 마침내 전체 공급망의 재고 조정 및 제로 재고 목표를 달성하게 된다.

ABSTRACT

Big data in the supply chain mainly comes from four aspects. One is the relevant data inevitably generated in the process of product value transfer of enterprises in the supply chain, such as production equipment quality data, planned procurement data, product data, etc; On the other hand, it is derived from the ERP data of various companies in the supply chain; The third is e-commerce data from the customer, and the last is data from external or manually entered data. A third-party data service center analysis and mining the data to predict and control the inventory in the process of supply chain operation. It brings innovation and change of management technology and way of thinking to the whole supply chain in many aspects, and finally achieves the goal of coordinated inventory and zero inventory of the whole supply chain.

키워드

빅데이터, ERP, 전자상거래, 데이터 마이닝

I. 서 론

The supply chain collaborative inventory management model in the context of big data proposed in this article is mainly to solve the "bullwhip effect" caused by information asymmetry in China's supply chain inventory management mentioned in the previous article, which causes the inventory of each participant in the supply chain A large backlog and a waste of resources in the overall supply chain. The article chooses the most representative fast-moving consumer goods industry with the "bullwhip effect"— the beer industry as an example to construct and analyze the later model. The model conforms to the ordering characteristics of most Chinese consumer industries. In order to simplify the model, the author mainly sets three supply chain units: manufacturers, wholesalers and retailer[1]. A statistical prediction unit based on collaborative big data logistics and its direct relationship of each link is: in the whole supply chain, collaborative data platform units based on big data is directly influenced by past consumption

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data to predict product[2], manufacturers' production capacity and distribution transport capacity are affected by information flow provided by collaborative platform, and at the same time, actual information demand by beer wholesalers and retailers is the gist for producers to adjust and improve. By the same token, the wholesalers zero bound inventory is also affected by collaborative platform information flow. Retailer's inventory is also affected by the actual consumption. Each prediction unit on collaborative platform is affected by consumer information to different extent at the same time, according to the relationship of each link, drawing the cause-and-effect graph of beer industry supply chain based on big data as Figure 3 show:

According to the above cause-and-effect diagram, we can further get the system dynamics figure of beer industry collaborative supply chain based on big data, And simplify part of the simulation to make the model more compliant with specific operating conditions, we performed the following hypothesis.

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