

Abstract

Supply chain management is a dynamic and unpredictable system made up of information, material, and financial exchanges between various entities from the procurement of raw materials to the delivery of finished goods to the final customers. The proposed hypothesis asserts that by cooperatively exchanging information the dynamism and unpredictability of the system can be managed, consequently, all nodes of the system will experience benefits in terms of performance and profit levels. The architecture has been used in the proposed model to handle dynamic customer arrivals and quantity. The framework of this thesis includes four different kinds of agents: suppliers, manufacturers, retailers, and customers, and their interaction levels. In the proposed work we modelled the ASCM system based on CPN using the CPN tool. Verification and detailed analysis of the ASCM system is also performed centered on CPN.