NIOPDC supply network Agent-based simulation in complex adaptive systems in order to achieve optimum inventory level

kaveh izadi sheykhani*,

Abstract: In this study.in order to answer to research main question with this theme:if the gasoline distribution system operated in a complex adaptive system , are all elements of supply network can achieve the optimal level of inventory?We first ,identified NIOPDC supply network in the form of complex adaptive systems then by agent-based simulation tools,simulate this network in NET LOGO software environment. This simulation based on agents interactions in term of inventory management due to the economic order quantity (EOQ). Results of the simulation indicated, the use of complex adaptive systems had a positive impact on achieving optimal inventory levels to all supply network agents .furthermore agents can achieve sustain estimation of economic order quantity ,reorder point , total cost in inventory management context, generally it can be concluded supply network agents are able to supply their customers so that no sales will be missed and will not pay unnecessary costs for holding excessive inventory.

Keywords : Key words : complex adaptive system , agent bases simulation ,inventory management, economic order quantity

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