

Agent-Based Simulation for Supply Chain Transport Corridors

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Abstract : Supply chains are the spinal cord of trade and commerce. Their logistics use different transport corridors on regular basis for operational purpose. The international supply chain transport corridors include different infrastructure elements (e.g. weighbridge, package handling equipment, border clearance authorities, and so on) in supply chains. This paper presents the use of multi-agent systems (MAS) to model and simulate some aspects of transportation corridors, and in particular the area of weighbridge resource optimization for operational profit generation purpose. An underlying multi-agent model provides a means of modeling the relationships among stakeholders in order to enable coordination in a transport corridor environment. Simulations of the costs of container unloading, reloading, and waiting time for queuing up tracks have been carried out using data sets. Results of the simulation provide the potential guidance in making decisions about optimal service resource allocation in a trade corridor.

Keywords : multi-agent systems, simulation, supply chain, transport corridor, weighbridge

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