

# Transportation management systems

Business



1 In the fast changing competitive market environment and in the backdrop of the necessity to improve service and reduce the inventory and transportation operational costs, there is an imposing need to strengthen the supply chain by integrating its warehouse management systems (WMSs) and transportation management systems (TMSs) into a Global Inventory Visibility (GIV).

A supply chain includes materials procurement and distribution to customers (Ganeshan and Harrison -1995). Due to internet revolution, information has been spreading at lightening speed but most of the companies in general are unable to handle the flood of information as they are not as yet fully equipped for it (Szgenda, 1999). The main reason for this inability is the separate and sequential functioning of WMSs and TMSs. An integration of these two systems into a GIV results in higher efficiency at all levels including cost reduction and improved customer satisfaction. The fragmented status of the warehousing and transportation systems has been resulting in excess inventory and build up of buffer stocks to meet the unexpected supply-demand gaps.

The first step towards achieving this integration is the dissemination of complete information among suppliers, retailers and carriers. The TMS should plan and manage multiple transportation modes, multiple carriers, multiple routes and multiple tariffs for timely supply of goods at low cost. When the GIV is efficiently operated, it will result in low cost throughout various stages of supply chains. Under GIV, time consumption, labour expenditure along with the handling costs could also be reduced due to a <https://assignbuster.com/transportation-management-systems/>

reduction in the number of personnel required to complete the task.

Reduced lead time availability is the main benefit from the GIV. It leads to implementation of creative policies resulting in improved product quality and increased customer service. (Hopp and Spearman, 1996). The virtual warehouse (VW) concept, aimed at maintaining real-time global visibility for logistics assets, was pioneered by Global Concepts, Inc. (Stuart et al., 1995; Landers et al., 2000). Real-time information and real-time decision algorithms are the basic things in the VW that provide operating efficiencies. But as proved by the simulation model, conducted for an auto-parts supplier's (company) multi product supply chain, the GIV could achieve these efficiencies in a single class warehouse (Stuart et al., 1995). The simulation model was experimented with three types of items known as slow moving items, regular items and fast moving items. They are automobile engines, automobile tires and motor oil items respectively. The results are amazing . It proved that an hourly warehouse inventory check is sufficient to keep the warehouse in sufficient stocks. GIV absolutely assures that there is no need to maintain extra stocks to meet uncertainties in supply-demand gap, as evidenced by the simulation model.

Conclusion:

Global Inventory Visibility (GIV) assures total operational efficiency in each and every step of the warehousing and transportation systems. It paves the way for cost reduction in warehouse maintenance and avoiding the wastage of money and time in transportation systems. It also totally eliminates the need to maintain excess stocks of products in warehouses to meet unforeseen demands. It has, of course, great scope for research too.

## References:

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