URN etd-0407109-183710-796
Author Kuen-Liang Gau
Author's Email Address No Public.
Statistics This thesis had been viewed 55 times. Download 0 times.
Department
Year 2004
Semester 1
Degree Master
Type of Document Master's Thesis
Language zh-TW.Big5 Chinese
Title The Bullwhip Effect in Vendor Managed Inventory: An Application of System Dynamics
Date of Defense 0000-00-00
Page Count 88
Keyword
Supply Chain Management
Bullwhip Effect
Vendor Managed Inventory
System Dynamic

Abstract Abstracts
As the degrees of complexity of a retailing supply chain increase rapidly, the different sources of uncertainties, such as the quality of products and services, the reliability of vendors and transportation providers, exit and enlarge. Empirical evidence shows that the orders placed by a retailer tend to be much more variable than the customer demand seen by that retailer. Thus, this increase in the variability of the orders seen by each stage in a supply chain was called the “bullwhip effect.” The bullwhip effect is a major concern for many manufacturers, distributors, and retailers because the increased variability in the order process 1) requires each facility to increase its safety stock in order to maintain a given service level, 2) results in increased costs due to overstocking throughout the system, and 3) can lead to an inefficient use of resources such as labor, warehousing, and transportation. In order to control or eliminate the bullwhip effect, some outstanding researchers have been worked on this subcategory and focused on demonstrating its existence, identifying its possible causes, and providing methods for reducing its impact. Some common conclusions is the centralization of demand information and the application of Vendor Managed Inventory (VMI).
In this research, Stella, system dynamic simulation software, is used to model the inventory control and management system in the supply chain, in which the VMI system is adopted. In order to study the bullwhip effects in the supply chain, the research is focused upon the information and logistics flows. By analyzing the computer simulation results, we conclude that: (1) by applying the centralized the supply chain information system, the robustness of the supply chain system is improved. However, the bullwhip effects still exist. (2) Utilizing VMI in a supply chain can integrate and synchronize the whole system information and logistics, and then the bullwhip effect can be almost eliminated.
Keyword：Supply Chain Management, Bullwhip Effect, Vendor Managed Inventory, System Dynamic
Advisory Committee - advisor

Files No Any Full Text File.
Date of Submission 2005-08-26