

Public Abstract

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Title:AN INTEGRATED LOGISTICS PERFORMANCE MEASUREMENT SYSTEM FOR LOGISTICS MANAGEMENT

In the 1980's there was a revolution that changed the nature of traditional performance measurement systems. Since then there has been an explosion in the number of scholars and practitioners seeking new and better ways of measuring organizational performance. Performance measurement systems (PMS) specialized for logistics management caught attention much later when more enterprises began to focus on logistics to reduce operational cost and increase profits. Meanwhile, there are more demands on logistics performance measurement systems (LPMSs). The role of an LPMS is beyond monitoring logistics performance, but also to provide logistics improvement suggestions, resolve trade-offs between different logistics activities and so on.

To design an LPMS, this thesis addresses the following four objectives: 1) review the evolution of performance measurement systems (PMS) for logistics since 2000; 2) determine the requirements for the design an ILPMS; 3) propose an ILPMS that satisfies these requirements; and 4) apply the ILPMS to a case study.

The ILPMS consists of three components: 1) a hybrid performance measurement framework, combining a hierarchical and process-based structure, to facilitate developing logistics performance measures and metrics; 2) different strategies for developing logistics performance measures and logistics activity metrics; 3) a hybrid multi-criteria decision making methodology, analytic network process (ANP) and decision-making trial and evaluation laboratory (DEMATEL), to prioritize performance measures and metrics for managerial purposes.

The ILPMS developed illustrates the procedures to establish a logistics performance measurement system for a manufacturing company. The results from the ILPMS provide effective feedback for performance management process and suggestions about performance improvement for managers.