Innovating an innovation-accommodating framework based on scorecard of logistical processes

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The efficient supply chain management requires the optimization of business, logistics and technological processes. In this respect the monitoring of processes and the optimization by computer simulation are considered important tools. In order to successfully apply computer simulation we suggest a methodology based on the process characteristics determined by surveys and the data obtained from enterprise resource planning system.

The purpose of this research is to make a table that is able to typify the processes, and to devise the interactive Balanced Scorecard methodology that operates the relations of score card. Considering that between the logistical processes there are numerous accidental processes, this research clarifys that the detailed analysises should be done with Monte-Carlo simulation. We wrote up a simulation framework, which is suited to typify the logistical system's capacity, accomplishment and cost of using Monte-Carlo simulation. This framework is an effective decision-supporting tool during the innovation of the monitored processes, with framework-accommodating data analysis and optimization techniques.

The suggested framework and also the related simplifyd analytical model are based on detailed research, during which the logistical processes' characteristics were defined. Also, significant data (from the angle of logistical process) that can be recovered from the enterprise-controlling system was used.

The paper is using a lot of details while reviewing the framework which is able to do the assignment with choosing the suitable process-modeling tools, making the related process-models and the implementation of the finished process-models into Simul8 framework. To support the planning and analyzing, the system can be parameterized through Excel interface.

Keywords: Logistics processes, SIMUL8, Monte-Carlo simulation