

# INVENTORY MANAGEMENT SYSTEM BASED ON STOCHASTIC SIMULATION FOR COST ACCOUNTING

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## ABSTRACT

Inventory Management in cost accounting is a very important matter since it costs account for a large portion of the total cost of manufacturing and merchandising. An effective system of inventory management can hence be critical to control cost and to improve the profitability. However, many small or medium-size firms with only a few number of products and very limited inventory management budget cannot afford to implement advanced inventory management systems such as JIT. Thus, this paper focuses on applications of nonlinear optimization and stochastic models to study issues in inventory management for those small and medium companies from cost accounting perspectives. Especially, the inventory management application developed in this study can be fully implemented in real-world inventory control situations using a spreadsheet software tool such as Excel, and it also can be integrated into the cost accounting curriculum as a cost accounting simulation tool.

**Keywords:** Cost Accounting, Inventory Management, Stochastic Simulation