

## **A Warehouse Design Decision Model – Case Study**

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### **Abstract**

Today's competitive and volatile market requires flexibility, quality and efficiency from the logistics operations. In this context, warehouses are an important link of the logistic chain and warehouse management plays an important role over customer's service. Throughout this work we analyze a mathematical model aiming to support warehouse management decisions. A case study is used for that purpose and the model jointly identifies product allocation to the functional areas in the warehouse, as well as the size of each area. This case study also evaluates the performance of the model when real data is used. Model is solved using LINGO 9.0 mixed-integer commercial solver, and potential savings achieved using the proposed technique are discussed.

**Index Terms:** Warehouse Operations, Facilities Planning and Design, Mixed-integer programming, Case study.