

At the Chair of **Logistics and Supply Chain Management** of TUM School of Management we are looking for an interested and qualified student to conduct his/her

## **Master thesis**

on the topic:

### **Inventory management with lateral transshipment in presence of online sales**

#### **Problem description:**

Inventory management is a crucial aspect of retail operations, as it helps retailers ensure that they have the right products in the right place at the right time to meet customer demand. Lateral transshipment is a specific technique used in inventory management that involves the transfer of goods between different locations in order to meet changing demand patterns. In the context of omnichannel retail, where retailers sell both online and offline, it is important to consider both channels in the inventory management process. In this thesis, the relevant literature on inventory management with lateral transshipment for retailers in the presence of both offline and online sales will be studied. Then a new methodology for modeling the inventory system will be proposed and evaluated via simulation.

#### **Selected research tasks:**

- Literature review on inventory management with lateral transshipment in the presence of online and offline sales
- Implementation of a simulation model of the proposed approach
- Evaluation and sensitivity analysis of the proposed approach

#### **Requirements:**

The thesis is for master students of the study-program TUM-BWL (with a major in Operations and Supply Chain Management). The ability to work independently, as well as analytical skills, are required. Knowledge of mathematical programming and simulation is required. Experience with programming in Python and the use of the SimPy library is a plus. The thesis should be written in English.

**Begin:** as soon as possible

**Advisor:** Mahsa Abbaszadeh Nakhost

**Application:** Email with curriculum vitae and transcript of records to [logtheses.log@mgt.tum.de](mailto:logtheses.log@mgt.tum.de)