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

Bachelor thesis

on the topic

Omnichannel Inventory Management for Perishable Goods: Strategies and Optimizations

The COVID-19 pandemic has fundamentally altered consumer behavior, with a significant shift towards online grocery shopping, increasing the importance of efficient omnichannel inventory management. This shift has not been temporary; instead, it has accelerated the adoption of omnichannel retailing strategies. Managing inventory for perishable items is particularly challenging, given their limited shelf life and strict requirements for freshness. This has placed unprecedented pressure on retailers to synchronize their inventory management across physical stores and digital platforms to reduce waste, ensure product availability, and maintain customer satisfaction. This thesis seeks to explore effective inventory management strategies for perishable goods in the omnichannel retail landscape, focusing on the balance between reducing waste and meeting the increased customer expectation for freshness and immediate availability.

Key project tasks:

- Literature review on relevant fields of study
- Examination of the unique challenges in managing perishable inventories in an omnichannel context
- Development and analysis of strategic inventory management models considering perishability for online and in-store channels
- Comparative assessment of inventory strategies such as First-Expire-First-Out and Just-In-Time replenishment in the context of omnichannel retailing
- Analysis of results and implications

Requirements:

This Bachelor's thesis is for students at the TUM School of Management with a focus on Operations and Supply Chain Management. The ability to structure the research (e.g., exploration, focusing, validation, and detailing), to work independently, and analytical skills are required. Experience with Python is a plus.

Earliest begin: as soon as possible

Supervisor: Mahsa Nakhost

Application: Email with curriculum vitae and transcript of records to logtheses.log@mgt.tum.de