

Finished theoretical thesis projects (examples)

Supply Chain / Inventory Management

- Heuristics for the Exploration-exploitation Trade-off in the Newsvendor Problem
- Recent Technological Developments in e-Fulfilment and their Implications for Supply Chain Management
- Demand Estimation under Substitution
- Exploring the Concept of “Fit” in Supply Chain Management
- Recent Technological Developments in e-Fulfilment and their Implications for Supply Chain Management
- Supply Chain Planning and Execution - Fusion Ahead?
- Data-Driven Supply Chain Optimization
- Integrated Location Inventory Model with Volume-Dependent Transportation Cost
- Integrated Forecasting and Inventory Control
- A Methodology for Supply Chain Segmentation
- Innovative Distributionskonzepte im Online-Handel
- Service Level Agreements in SC Planning
- Management of Safety Stocks for Product Portfolios
- Inventory Control of a Continuous Production-Inventory System
- Analysis of Truck Handling Operations at Loading Bays
- A Review on Weather-Related Inventory Management
- How Coordinated Order Smoothing Can Mitigate the Bullwhip Effect

Closed-Loop Supply Chain Management

- Why Designing Products for Remanufacturing if the Market is not Accessible?
- Contracting in Reverse Supply Chains
- Competition in Remanufacturing and its Environmental Impact
- Product Design for Remanufacturing under Competition
- Optimization in Used Product Acquisition
- Who plays with Whom in Closed Loop Supply Chains? Game Theoretical Approaches in Reverse Logistics
- The Role of Product Design in Closed-loop Supply Chains
- Coordination Aspects in Closed-Loop Supply Chains - The Value of Information
- Incentive Problems in the Quality Grading of Used Products
- Identification of Supply Chain Coordination Concepts with Respect to the Customer Linking Forward and Reverse Supply Chains
- Consequences of the Increased Raw Material Prices on Closed-Loop Supply Chain Management
- Cooperation and Coordination in Closed-Loop Supply Chains
- Global Examination of Closed-Loop Supply Chains

Revenue Management

- Clustering Methods for Hierarchical Demand Fulfillment
- Demand Fulfillment under Uncertainty
- Allocation Planning and Real-Time Order Promising for MTS Production Systems - What are the Effects of Nesting?
- Revenue Management in Production: Numerical Study of Bid-Price Control Approaches
- Revenue Management in Production: Randomized Linear Programming Model with Bid-Price Control
- Learning from Revenue Management - Potentials for Demand Management at Südzucker AG
- Long-term and Short-term Value of Revenue Management
- Methods and Applications of Revenue and Demand Management in Process Industries
- Revenue Management in Production: Dynamic Bid-Prices in Revenue Management
- Revenue Management in Production: Approximate Dynamic Programming Approaches to Network Revenue Management
- Revenue Management in Production - Assessing the Potential of RM in Production
- Revenue Management in Production: The Design of Experiment
- Revenue Management in Production: Bid-Price Control in Make-to-Stock Production Systems
- Potentials of Revenue Management in Closed-Loop Supply Chains

Routing / Scheduling

- A Dynamic Vehicle Routing Model for Store-Based Attended Home Delivery
- An Exact Solution Approach for the Drone Delivery TSP with Recharging
- In-Store Order Picking for E-grocery
- Solution Approaches for the Routing of Mobile Rack-moving Robots in Warehouses
- Quantitative Models for Same-Day Delivery
- Automated Goods-to-Person Systems

Finished in-company thesis projects (examples)

Supply Chain / Inventory Management

- Development of a replenishment Concept under Different Distribution Structures (in cooperation with BASF)
- Solving the "Customer Choice Problem" (in cooperation with BASF)
- Determination of Precise Prognoses and Optimal Order Quantities for Initial Replenishments at Spiriant GmbH

- Development of an inventory concept in the chemical industry for products processed in a multi-echelon divergent network
- Development of an inventory management system for raw material granulate (in cooperation with Südpack GmbH)
- Development of a Safety Stock Concept for the Agrochemical Supply Chain (in Cooperation with BASF SE)
- Inventory Management in a Multi-Echelon Supply Chain - A Case Study of Henkel's Supply Chain for Consumer Adhesives in Western Europe
- Approaches and Consequences of Inventory Reduction at a Customer DC in the Context of VMI - A Case Study at Procter&Gamble (in Cooperation with Procter & Gamble)
- Influencing Factors of Inventory Management: A Case Study on the European Parts Distribution Centre of John Deere (in Cooperation with John Deere)

Closed-Loop Supply Chain Management

- A Segmentation Approach for Selecting the Right Policy in Disposition and Production (in Cooperation with Camelot)
- Analysis and Development of a Concept for Optimizing the Returnable Packaging Inventory Management of the Component Process at Lufthansa Technik AG
- Optimization of Logistic Processes in the Refurbishment of Used IT Equipment at the GEODIS Asset Recovery Center Mainz - Meeting the Challenges of IT Remarketing

Revenue Management

- Learning from Revenue Management - Potentials for Demand Management at Südzucker AG
- Yield-increasing Capacity Planning - Revenue Management in Container Logistics
- Revenue and Demand Management in Process Industry: A Study about Potential and Implementation (in Cooperation with Camelot)

Tactical Planning

- Production and Distribution Coordination in a Seasonal Supply Setting - A Tactical Planning Model in the Sugar Industry
- Effect of Depot Planning at the Circulation Velocity of Reusable Transport Equipment Illustrated by the 'Unicooler' of the Lufthansa Cargo AG (in Cooperation with Lufthansa Cargo AG)
- Strategic and Tactical Distribution Planning in Sugar Industry (in Cooperation with Süddeutsche Zucker AG)
- Analysis of the Consequences of an Increase of Product Variants on Logistics - The Deduction of Solution Approaches and the Practical Implementation using the Supply of the Crankcase and Cylinder Head Production Example from the Mercedes Benz Plant in Untertürkheim (in Cooperation with Daimler AG)

- Development and Application of a Medium-Term Production and Workforce Capacity Planning Based on Mixed-Integer Programming in the Automotive Industry (in Cooperation with Daimler)

Routing / Scheduling

- A Routing Model for Vehicle Dispatching at Fraport AG
- Scheduling of Jobs on Filling Lines at BASF SE
- Delivery Date Management in the Context of Capacity Constraints with the Case of Parker Hannifin Aerospace