

Preface

In the past decades, logistics management turned out to be one of the most important success factors in managing the tremendous challenges of a more and more globalized economy. In industry and science, many new methods and tools for decision support in procurement-, production-, distribution-, resource-, and supply chain management have been developed and applied successfully. In September 2015 the conference on logistics management LM2015 took place at the Technische Universität Braunschweig, Germany, as the ninth event of a biannual logistics management series that started back in 1999. Founded and supervised by the special interest group on logistics in the German Academic Association for Business Research (VHB), this series of conferences focuses on academic achievements with respect to the management of the logistics function of firms.

LM2015 is held in conjunction with VHB's special interest group on production, thus, without loss of variety in the treatment of logistics topics, one can observe a bias to production logistics, i.e., facility layout, inventory management, line configuration, or production planning and scheduling. This emphasis is underlined by the invited keynote of Rainer Lasch and Roy Fritzsche, entitled "[Condition-Based Maintenance Planning Within the Aviation Industry](#)." The contribution aims at the increase of aircraft availability due to condition-based maintenance planning as well as the efficient supply of spare parts.

Apart from the aforementioned invited paper the other 19 contributions of this volume have undergone a thorough review by at least three referees each. The condition of acceptance has been set to an above average rating of at least two of the referees involved. Two of these papers address the management of supplies: "[Considering Small and Medium-Sized Suppliers in Public Procurement—The Case of the German Defence Sector](#)" discusses the practice of lot-wise calls in German defense procurements. The empirical study "[Integration of Cultural Aspects in Supplier Evaluation](#)" focuses on cultural differences in the cooperation between buyer and supplier.

The next three papers are devoted to the coordination of supply chains. "[RoRA-SCM—Review of the Integration of Flexibility Planning in Supply Chains](#)" addresses robust, resilient, and agile planning in the light of uncertainty introducing

risk and opportunity. The paper surveys optimization models and their integration into the supply chain matrix. “[Coordination in Multimodal Supply Chains: Drafting an Agent-Based Exchange](#)” introduces a market place concept for agent-based freight exchange based on bidding auctions. “[Flexibility of 3PL Contracts: Practical Evidence and Propositions on the Design of Contract Flexibility in 3PL Relationships](#)” covers flexibility mechanisms in contract design. An analysis is performed in order to identify areas of prospective research.

A bunch of four papers deals with the integrated management of resources within a firm. “[Integrated Facility Location, Capacity, and Production Planning in a Multi-Commodity Closed Supply Chain Network](#)” introduces a mixed integer model for forward and reverse flows of multiple make-to-order products. “[An Extended Model Formulation of the Facility Layout Problem with Aisle Structure](#)” suggests a mixed integer model capable of handling layout arrangement and aisle structure simultaneously. “[Integrated Make-or-Buy and Facility Layout Problem with Multiple Products](#)” tackles a simultaneous make-or-buy decision while considering costs of outsourcing as well as production costs imposed by facility layout. The paper “[Qualification and Competence Related Misfits in Logistics Companies: Identification and Measurement](#)” is the only one in this volume addressing the important topic of human resources in a mixed method approach.

Flexible Production Management is considered by three papers. “[A Lot Streaming Model for a Re-entrant Flow Shop Scheduling Problem with Missing Operations](#)” examines the impact of increasing the number of sublots for this stochastic scheduling problem. The paper “[Identifying Complexity-Inducing Variety: Adapting ClustalW for Semiconductor Industry](#)” adapts the protein multiple sequence alignment program ClustalW for complexity measurement in workflow design. The “[Consideration of Redundancies in the Configuration of Automated Flow Lines](#)” performs a numerical analysis on redundant configurations aiming at ensuring throughput rates while avoiding costly buffer space.

Another four papers deal with distribution management. “[Prepositioning of Relief Items Under Uncertainty: A Classification of Modeling and Solution Approaches for Disaster Management](#)” combines facility location and inventory management under uncertainty. “[Forecasting Misused E-Commerce Consumer Returns](#)” predicts the ratio of returning items already used by customers. This is of particular importance since used items cannot be directly resold anymore. “[A Rollout Algorithm for Vehicle Routing with Stochastic Customer Requests](#)” maximizes the number of served requests within the time limit of a work shift. “[A Real-World Cost Function Based on Tariffs for Vehicle Routing in the Food Retailing Industry](#)” integrates the price structure based on tariffs as they appear for freight carriers. In particular, compartments of vehicles and time windows for delivery are considered.

The last three papers of this volume are devoted to transport management. “[An Adaptive Large Neighborhood Search for the Reverse Open Vehicle Routing Problem with Time Windows](#)” extends the OVRP by time windows and truck specific starting positions. A metaheuristic generates return trips to the depot for the case of dynamic vehicle routing problems. “[A Two-Stage Iterative Solution](#)

[Approach for Solving a Container Transportation Problem](#)” suggests a mixed integer model for inland container transportation under the assumption that one trucking company owns depots, a fleet, and a sufficient number of empty containers. The paper [“Vehicle Routing and Break Scheduling by a Distributed Decision Making Approach”](#) introduces a framework for distributed decision making such that drivers and planners coactively solve the integrated problem.

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