

Table of Contents

Part I: Production Systems

Production Processes

Integration of Supplier and Customer's Production Processes	3
<i>Marek Eisler and Remigiusz Horbal</i>	
Methodology of Designing Disassembly and Reassembly Processes Using Lean Thinking Approach	11
<i>Tomasz Kanikula and Tomasz Koch</i>	
Evaluating Energy Efficiency Improvements in Manufacturing Processes	19
<i>Katharina Bunse, Julia Sachs, and Matthias Vodicka</i>	
Integrated Micro Process Chains	27
<i>Bernd Scholz-Reiter, Nele Brenner, and Alice Kirchheim</i>	

Production Management

Improvement Tools for NEH Based Heuristics on Permutation and Blocking Flow Shop Scheduling Problems	33
<i>Ramon Companys, Imma Ribas, and Manel Mateo</i>	
A Basic Study on the Installation of Distributed Autonomous Production Scheduling System in Ubiquitous Environment	41
<i>Susumu Fujii, Tomomitsu Motohashi, Takashi Irohara, and Yuichiro Miyamoto</i>	
Experimental Evaluation of Inventory-Based Discrete-Updating Market Maker for Intra-firm Prediction Market System Using VIPS	49
<i>Hajime Mizuyama, Morio Ueda, Katsunobu Asada, and Yu Tagaya</i>	
Database Scheme Configuration for a Product Line of MPC-TOOLS ...	57
<i>Benjamin Klöpper, Tobias Rust, Bernhard Vedder, and Wilhelm Dangelmaier</i>	

Production Systems Design

Balancing Mass Production Machining Lines with Genetic Algorithms	65
<i>Olga Guschinskaya, Evgeny Gurevsky, Anton Ereemeev, and Alexandre Dolgui</i>	

A Top-Down Approach for an Automatic Precedence Graph Construction under the Influence of High Product Variety	73
<i>Simon Altemeier, Daniel Brodkorb, and Wilhelm Dangelmaier</i>	

Lean Management

A Conceptual Model for Production Leveling (Heijunka) Implementation in Batch Production Systems	81
<i>Luciano Fonseca de Araujo and Abelardo Alves de Queiroz</i>	
The Moderating Role of JIT Links with Suppliers on the Relationship between Lean Manufacturing and Operational Performances	89
<i>Pietro Romano, Pamela Danese, and Thomas Bortolotti</i>	
Type Toyota Management Systems (MSTT) of Small and Medium-Sized Enterprises in Mechanical and Electrical Industry	97
<i>Stefan Kluge, Andreas Rau, and Engelbert Westkämper</i>	
Production Leveling (Heijunka) Implementation in a Batch Production System: A Case Study	105
<i>Luciano Fonseca de Araujo and Abelardo Alves de Queiroz</i>	

Maintenance, Inspection and Monitoring

Towards a Maintenance and Servicing Indicator	113
<i>Pascal Vrignat, Manuel Avila, Florent Duculty, and Frédéric Kratz</i>	
Monitoring of Collaborative Assembly Operations: An OEE Based Approach	121
<i>Sauli Kivikunnas, Esa-Matti Sarjanoja, Jukka Koskinen, and Tapio Heikkilä</i>	
The Value of Sampling Inspection in a Single-Period Remanufacturing System with Stochastic Returns Yield	128
<i>Christos Zikopoulos, Sofia Panagiotidou, and George Nenes</i>	

Risks and Uncertainty

The Impact of Behavior-Based Strategies on Supply Uncertainty	136
<i>Fabiana Pirola and Roberto Pinto</i>	
MRP Offsetting for Assembly Systems with Random Component Delivery Times: A Particular Case	144
<i>Mohamed-Aly Louly and Alexandre Dolgui</i>	

Sustainability

From Product End-of-Life Sustainable Considerations to Design Management	152
<i>Natalia Duque Ciceri, Marco Garetti, and Severine Sperandio</i>	
A Conceptual Framework for Sustainable Manufacturing by Focusing on Risks in Supply Chains	160
<i>Masaru Nakano</i>	
Introducing Energy Performances in Production Management: Towards Energy Efficient Manufacturing	168
<i>Alessandro Cannata and Marco Taisch</i>	

Part II: Supply Chains

Supply Chains Operation Management

Supply Chain Reactivity Assessment Regarding Two Negotiated Commitments: Frozen Horizon and Flexibility Rate	179
<i>Aïcha Amrani-Zouggar, Jean-Christophe Deschamps, and Jean-Paul Bourrières</i>	
Principles for Real-Time, Integrated Supply Chain Control: An Example from Distribution of Pharmaceuticals	187
<i>Heidi C. Dreyer, Jan Ola Strandhagen, Anita Romsdal, and Annette Hoff</i>	
Capacity Adjustment through Contingent Staffing Outsourcing	195
<i>Gilles Neubert and Philippe Adjadj</i>	
Coordination in Supply Chains: From Case Studies to Reference Models	203
<i>Yue Ming, Raymond Houé, and Bernard Grabot</i>	

Production Networks

Construction Logistics Improvements Using the SCOR Model – Tornet Case	211
<i>Fredrik Persson, Jonas Bengtsson, and Örjan Gustad</i>	
Interoperability Constraints and Requirements Formal Modelling and Checking Framework	219
<i>Vincent Chapurlat and Matthieu Roque</i>	

Cooperative Supply Chains: Models and Challenges

A Study on VMI-Based Supply-Chain System by Simulation Analysis	227
<i>Shigeki Umeda</i>	
How do the Key Determinants of a Distributed Planning Process Impact on the Performance of a Supply Chain?	235
<i>Julien François, Uche Okongwu, Jean-Christophe Deschamps, and Matthieu Lauras</i>	
The Application of Lean Production Control Methods within a Process-Type Industry: The Case of Hydro Automotive Structures	243
<i>Daryl Powell, Erlend Alfnes, and Marco Semini</i>	
A Data Aggregation Methodology to Assess the Global Production Capacity of Complex Supply Chains	251
<i>Frederic Pereyrol, Jean-Christophe Deschamps, Julien François, Pascale Farthouat, and Remy Dupas</i>	

Relationships with Suppliers

The Behavior of Suppliers in Supplier-Customer Relationships	259
<i>Ralph Riedel, Norbert Neumann, Marco Franke, and Egon Müller</i>	
Multi-supplier Systems with Seasonal Demand	267
<i>Ekaterina Bulinskaya and Larisa Afanasyeva</i>	

Relationships with Customers

A Concurrent Newsvendor Problem with Rationing	275
<i>Roberto Pinto</i>	
A Model for Vendor Selection and Dynamic Evaluation	283
<i>Raffele Iannone, Salvatore Miranda, Stefano Riemma, and Debora Sarno</i>	
Customer Driven Capacity Setting	291
<i>Alexander Hübl, Klaus Altendorfer, Herbert Jodlbauer, and Josef Pilstl</i>	

New Practices in Transportation and Logistic Organisations

Decision Making Tool for the Selection of Urban Freight Transport Project	299
<i>Nicolas Malhéné and Dominique Breuil</i>	

Making PROFIT at the Intermodal Terminal – A Research Agenda	307
<i>Torbjörn H. Netland and Ingrid Spjelkavik</i>	
The Value of Lead Logistics Services	315
<i>Oliver Schneider and André Lindner</i>	

Part III: Interoperable and Distributed Systems

Interoperable and Agile Production Systems

High Resolution Supply Chain Management – Resolution of the Polylemma of Production by Information Transparency and Organizational Integration	325
<i>Tobias Brosze, Fabian Bauhoff, Volker Stich, and Sascha Fuchs</i>	
Superior Performance of Leagile Supply Networks by Application of Autonomous Control	333
<i>Bernd Scholz-Reiter and Afshin Mehrsai</i>	
Analysis of the Harmonizing Potential of Order Processing Attributes in Spread Production Systems	342
<i>Dirk Oedekoven, Volker Stich, Tobias Brosze, and Stefan Cuber</i>	

Agent Modelling, Distributed Simulation and Control Frameworks for Production Management Systems

HLA Multi Agent/Short-Lived Ontology Platform for Enterprise Interoperability	350
<i>Gregory Zacharewicz, Olivier Labarthe, David Chen, and Bruno Vallespir</i>	
Model Based on Bayesian Networks for Monitoring Events in a Supply Chain	358
<i>Erica Fernández, Enrique Salomone, and Omar Chiotti</i>	
Simulation Model Driven Engineering for Manufacturing Cell	366
<i>Hironori Hibino, Toshihiro Inukai, and Yukishige Yoshida</i>	
VirtES (Virtual Enterprise Simulator): A Proposed Methodology for Enterprise Simulation Modeling	374
<i>Giovanni Davoli, Sergio A. Gallo, and Riccardo Melloni</i>	

Part IV: Strategy and Innovation

Change, Strategy and Innovation

Measuring the Intangible Aspects of the Manufacturing Strategy – A Case Study from the Automotive Industry	383
<i>Bjørnar Henriksen and Lars E. Onsøyen</i>	
Managing Innovation: A Multidisciplinary Scenario Development Approach	392
<i>Esmond Urwin and Michael Henshaw</i>	

Projects and Life Cycle

Industrialization and Manufacturing Steps within the Global Product Lifecycle Context	400
<i>Anis Ben Khedher, Sébastien Henry, and Abelaziz Bouras</i>	
Analysis of End-of-Life Vehicle Processes: A Case Study in Sardinia (Italy)	409
<i>Carlo Enrico Carcangiu, Pier Francesco Orrù, and Maria Teresa Pilloni</i>	
Improving Project Control and Guidance through a Time-Frame Simulation Approach	417
<i>Massimo de Falco and Luisa Falivene</i>	
Advanced Topics in Project Management Process	425
<i>Lucio Bianco and Massimiliano Caramia</i>	

Knowledge Management

Knowledge Based Enterprise Engineering (KBEE): A Modeling Framework for Enterprise Knowledge Capitalization	433
<i>Mahmoud Moradi, Mounir Badja, and Bruno Vallespir</i>	
The Knowledge Dimension of Production Transfer	441
<i>Jens O. Riis, Brian Vejrum Waehrens, and Erik Skov Madsen</i>	

Information and Communication Technologies

A Framework for Enhancing Responsiveness in Sales Order Processing System Using Web Services and Ubiquitous Computing Technologies ...	449
<i>Mokmin Park, Kitae Shin, Hanil Jeong, and Jinwoo Park</i>	
How to Foresee and Capture the Effects of RFID Implementation	457
<i>Kristin Hergot and Lars Skjelstad</i>	

Co-evolution of Product Design and Supply Chain Considering Change Management Strategies

Network Compatibility Blocs as Basis of Partner's Selection	465
<i>Salah Zouggar, Marc Zolghadri, Xin Zhang, and Philippe Girard</i>	
Knowledge Based Product and Process Engineering Enabling Design and Manufacture Integration	473
<i>Matthieu Bricogne, Farouk Belkadi, Magali Bosch-Mauchand, and Benoît Eynard</i>	

Part V: Performances

Performance Measurement and Costing

Proposal of a Performance Measurement System for Professional Non-profit Service Organizations	483
<i>Michela Benedetti and Sergio Terzi</i>	
Total Cost of Ownership Considerations in Global Sourcing Processes	491
<i>Robert Alard, Philipp Bremen, Josef Oehmen, and Christian Schneider</i>	
Designing and Implementing a Framework for Process-Oriented Logistics-Costs Measurement in an Automotive-Supplier Group	499
<i>Gregor von Cieminski, Michael Karrer, and Malte Zur</i>	

Quality

Analysis of Quality in Brazilian E-Commerce (B2C)	506
<i>Pedro Luiz de Oliveira Costa Neto, José Paulo Alves Fusco, and João Gilberto Mendes dos Reis</i>	
Implementing Six Sigma in Challenging Times: A Case Study	514
<i>Jose Hernandez and Trevor Turner</i>	
Development of Manufacture Support System Using Taguchi Methods	522
<i>Ikuo Tanabe</i>	

From Single to Networked Enterprises Performance Measurement and Management

Integration of Requirements for Performance Indicator System Definition and Implementation Methods	530
<i>Michel Ravelomanantsoa, Yves Ducq, and Bruno Vallespir</i>	

Innovation Management in European Projects	538
<i>Bernard Monnier and Marc Zolghadri</i>	
Understanding Process Quality in the Context of Collaborative Business Network Structures	545
<i>Patrick Sitek, Novica Zarvić, Marcus Seifert, and Klaus-Dieter Thoben</i>	

Part VI: Service

Services

The Concept of Modularisation of Industrial Services	555
<i>Fabrice Seite, Oliver Schneider, and Andreas Nobs</i>	
A Multi-dimensional Service Chain Ecosystem Model	563
<i>Frédérique Biennier, Régis Aubry, and Youakim Badr</i>	
Hypergraph of Services for Business Interconnectivity and Collaboration.....	571
<i>Alida Esper, Youakim Badr, and Frédérique Biennier</i>	
Lean First, Then Automate: An Integrated Model for Process Improvement in Pure Service-Providing Companies.....	579
<i>Thomas Bortolotti, Pietro Romano, and Bernardo Nicoletti</i>	
Implementing Lean into a Servicing Environment	587
<i>Ross Ritchie and Jannis Angelis</i>	
Health Care Provider Processes Analysis	595
<i>Lukasz Kawczynski and Marco Taisch</i>	
Networked Service Innovation Process in the Production of a New Urban Area	603
<i>Erja Väyrynen and Riitta Smeds</i>	
Health Care Provider Value Chain	611
<i>Lukasz Kawczynski and Marco Taisch</i>	

Business Process and Performance Management of Product-Service Systems

Contribution to the Definition and Modeling of Service and Service Activities	619
<i>Mounir Badja, Wael Touzi, and Thècle Alix</i>	

A Structured Comparison of the Service Offer and the Service Supply Chain of Manufacturers Competing in the Capital Goods and Durable Consumer Goods Industries	627
<i>Donatella Corti and Alberto Portioli-Staudacher</i>	
Business Process Management Systems – Enabling Continuous Improvement in Industrial Services	636
<i>Heikki Hirvensalo, Jan Holmström, and Timo Ala-Risku</i>	
A Framework for Product-Service Design for Manufacturing Firms	644
<i>Thècle Alix and Bruno Vallespir</i>	
Lean Implementation in Service Companies	652
<i>Alberto Portioli-Staudacher</i>	
Exploring the Causal Relationships of KPIs in after Sales Service Systems	660
<i>Elena Legnani and Sergio Cavalieri</i>	
Author Index	669